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ABSTRACT

One of twelve instructional units in the Native American Career Education (NACE) program, this unit is intended to introduce Indian junior high school students to the idea that in both traditional and contemporary societies, careers can be divided into clusters according to common features in the jobs performed. In six activities students consider how their own interests, values, and aptitudes might affect career choice; see how people with different jobs and interests work together to create a product; and study similarities and differences in values and job types in traditional and contemporary societies. Related subject areas are social development and economics. Each activity includes objectives, student materials, and suggestions to the teacher on how to use them. Student exercises consist of readings, questions to answer, games, simulations, project instructions, and other learning activities. Each activity is followed by suggestions for ways of extending learning and, where appropriate, additional resources are described. Student materials may be used as master copies for reproduction or as models for material development. A test designed to measure student mastery of the main objectives is included with each unit, along with an answer key. (A guide to the whole twelve-unit program is also available--CE 014 035.) (TA)

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ED147605

PUTTING IT ALL TOGETHER

Native American Career Education Unit

U S DEPARTMENT OF HEALTH,
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EDUCATION

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This document is one of a series of teaching/learning units dealing with Native American Career Education. The titles of all individually available documents in this series appear below:

Career Awareness units
Part of the Whole World
Cooperation
From Idea to Product
The Community
The Community in Transition

Career Orientation units
Putting Your Money to Work
Living with the Land
Working for the People

Career Exploration units
Planning
Putting It All Together
Getting Ready for Jobs
The Career Fair

and

Native American Career Education,
A Curriculum Guide

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Foreword

The Native American Career Education Program consists of twelve units designed to address the specific needs and aspirations of Native American students. It includes teacher and student materials, evaluation materials, and a Curriculum Guide.

These units employ a variety of learning activities. They are designed to: 1)bridge the gap between traditional and technological societies by identifying the parallels between them and exploring the values they represent; 2) create an understanding of the economic context within which career choice takes place; 3) foster personal and interpersonal skills necessary to function in the world of work; and, 4) develop career exploration skills.

Development has been based on the recognition that the needs of Native American communitites differ greatly from those of the larger American society. In these communities, as in third world countries, problems are not due to a lack of natural resources, but rather to a lack of meaningful development of human resources which would allow for additional economic development and self-determination of Native American communities.

In order to identify and meet these needs, information has been gathered from Native American communities, students, teachers, and tribal groups, and the materials have been developed with the guidance of an advisory committee of Native Americans.

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Preface

"Putting It All Together" is one of the units whose focus is the exploration phase of Career Education, in which the student is asked to find out about careers in his community or on his reservation.

Only by actual investigation can one determine what aptitudes and skills are required in a particular career field. Then, by taking an inventory of one's own aptitudes and skills one can judge whether or not one is suited for a particular career. If one's aptitudes and skills are compatible with a career area, one can then develop an educational plan which leads towards it. One can also begin to develop the work attitudes necessary to pursue one's chosen occupation.

This unit introduces "career clustering" and "career paths." If one contemplates various occupations, it becomes clear that many of them have features in common. That some skills can be transferred from one occupation to another with some modification. One will soon discover, however, that the farther one moves along a career path, the more specialized the jobs becomes, and the fewer the skills that can be transferred.

In traditional Indian society, as in other early societies, it was discovered that some tribal members possessed more of certain aptitudes and skills than others. It was also discovered that if the essential tasks for the preservation of family and tribe were to be performed efficiently, there would have to be a "division of labor." Thus, those who had the aptitude and skill to fashion arrows, manufactured arrows. Those who could best serve the Indian community by making bows, made bows. The same with those who could best make

arrowheads, tan hides, make clothing, build canoes, fashion tipis, hunt game, farm, and so forth. One might say that the making of bows, arrows, arrowheads etc. were all parts of one career cluster. Tanning skins and sewing them into clothing or tipi covers could be another cluster, as could hunting, farming, and fishing, etc.

In modern society the same division of labor can be observed-- the factory assembly line, construction of homes, huge commercial farms, the fishing industry, and many other activities all involve career clusters and the division of labor.

This unit introduces the student to career clusters in both traditional Indian society and modern industry.

Donald A. McCabe, Navajo
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Development
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Contents

This book includes all information and student materials needed for the unit, "Putting It All Together." In some activities, students will be asked questions which they must answer in writing. Many of these questions have no single "right" answer. For your convenience, however, some sample answers have been printed after each set of reproduced questions.

At the end of this Guide, you will find a bibliography. This has been included to help you locate good, appropriate additional materials in order to stimulate student interest in the unit and to enrich their individual learning experiences.

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An Overview Of The Unit

General Purpose

Putting It All Together is a unit in the Native American Career Education Program. The general purpose of this unit is to help Native American students understand the concepts of career clustering and career cluster interdependency and to help them recognize some of the ways that interest, aptitudes and values can affect career choice.

Introduce Students to Goals and Objectives

In this unit, there are six Activities. Each Activity has a specific goal and a specific objective. These are as follows:

Activity 1. *Career Clusters--Then and Now*

GOAL:	To help students understand the concept of career clustering and how career clusters relate to basic human needs.
OBJECTIVE:	Students will identify several occupations in each of fifteen career clusters and features which these jobs have in common; and they will relate the work of the fifteen clusters to the meeting of basic human needs in both a traditional and a contemporary society.

Activity 2. *Go Fly a Kite*

GOAL:	To help students understand career cluster interdependency.
OBJECTIVE:	Students will take part in a simulated (or real) activity in which the work in small groups to design, build, and market a kite.

Activity 3. *Very Interesting*

GOAL:	To help students understand how personal interests can affect career choice.
OBJECTIVE:	Given eight interest areas, students will identify their personal interests and will match them with occupations.

Activity 4. *Ap-stacle Courses*

GOAL:	To help students understand what aptitudes are and how they can affect career choice.
OBJECTIVE:	Given five types of aptitudes, students will identify their personal aptitudes and will employ these aptitudes in a group game exercise.

Activity 5. *Values*

GOAL:	To help students understand how values can affect career choice.
OBJECTIVE:	Students will identify their personal values and will match three factors (interests, aptitudes, and values) with careers.

Activity 6. *Putting It All Together*

GOAL:	To help students develop their understanding of how interests, aptitudes, and values can affect career choice.
OBJECTIVE:	Students will take part in a matching exercise and a simulation in which they make career choices based on given sets of interests, aptitudes, and values.

Summary

In the first part of this unit, students will be exposed to the concept of career clustering in the context of both traditional and contemporary societies. They will be introduced to fifteen career clusters and to several present-day occupations associated with each. They will then be exposed to the idea that, despite divergent levels of economic and technological sophistication, people of all societies are engaged in the age-old process of providing for their basic needs--food, shelter, aids and security. Through a series of drawings and annotated descriptions, they can learn that the types of goals and responsibilities ascribed to the fifteen career clusters presented in this unit are similar to those assumed by Native American communities many years ago.

After being exposed to the concept of career clustering, students will be asked to participate in several exercises designed to promote understanding of career cluster interdependency. These exercises culminate in an exercise which asks students to cooperate in designing, building, and marketing their own kites.

Next, students will engage in several Activities designed to help them identify personal interests, aptitudes, and values and to interpret their self-assessment in terms of potential occupational choices. They will also explore the relevancy of personal preferences and competencies to career decision-making by matching brief biographical sketches to appropriate career clusters.

Throughout the unit, students should be encouraged to discover information for themselves. Think of these materials as a springboard for further and more intensive investigation. Although you are encouraged to adhere to the basic goals, content, and general sequence of the material presented in this unit, you are also encouraged to adapt this material to the individual needs and learning competencies of your students.

Small Group Interaction

The learning activities in this unit have been developed primarily in terms of small group interaction. Since our lives are inextricably bound to diverse groups of people (family, peer, work, etc.), it is important that the student be aware of the importance of productive, cooperative group interaction. Just as most occupations demand competent, effective group interaction skills, so too career planning should be a group--as well as an individual--effort.

The most advantageous grouping method for your particular students is left to your discretion. However, the following suggestions may be useful in helping you to find the most productive grouping.

1. Groups tend to be more productive if they are somewhat heterogeneous; that is, if gregarious students are combined with quiet ones, leaders with followers, slow students with faster ones, etc.

2. Since the objective of many of the activities is to encourage students to learn to interact in many different kinds of groups, it may be useful to have students change groups after each Activity.

Teacher's Note: Discussions

In the Teacher Suggestions for this unit, you will find optional discussion questions designed to stimulate students to think about the concepts presented in the unit. You may encourage class discussion or limit it, depending on the enthusiasm of your students. If students appear responsive to discussion, encourage them to share their ideas and opinions with the class verbally. If they appear unresponsive, present the concepts yourself in the form of an informal lecture and then pose questions to stimulate discussion and ascertain how well students have understood the concepts.

Materials

For this unit, you will need:

- extra notebook paper and pencils
- access to blackboard, seating for workgroups, etc.
- kite building materials: (optional)
  - thin, lightweight strips of wood (spruce, birch, or bamboo cane)
  - kite string or heavy white thread
  - model airplane tissue, tracing paper
  - white glue or airplane cement
  - tail materials (scraps of material)
  - a ready-made kite (optional)
- construction paper or posterboard, and crayons or felt-tip pens, for kite posters
- bulletin board space for a display (Interest Board)

Scheduling

Activity 1 - two class hours

Activity 2 - four to five class hours

Activity 3 - two to three class hours

Activity 4 - one to two class hours

Activity 5 - one to two class hours

Activity 6 - one to two class hours

Introducing The Unit In Class

If you have used any of the other units in the Native American Career Education program, you have probably already discussed the Nez poem and the What Native American Career Education Is All About section. If so, go now to Introducing the Unit on page 11 of this Teacher's Guide.

If not, begin with the suggestions below.

Reading the Poem

Read the poem by David Martin Nez (p. 7 in this Guide). You may want to reproduce it and pass out copies to the class, or letter it on poster board and display it. Afterwards, encourage students to discuss what they think the poem is saying. Suggest possible meanings such as 1) that it is important to learn what other cultures have to offer; and, 2) that it is important to understand and preserve the beauty of one's own culture.

Introducing the Program

After the class has discussed the Nez poem, write the words *Native American Career Education* on the blackboard. Ask the students to discuss what they think this phrase means. If they have trouble getting started, help them by breaking the concept into parts. Ask questions that will lead the class step by step to a general understanding of the ideas involved*. Students should be encouraged to work together in small groups to answer questions like these:

1. What is an American?
2. What is a Native American?
3. What is a career? Can you name some examples of different types of careers? Are there any careers which interest you right now? How do people get started in careers?
4. What do you think that career education is?
5. What do you think that career education for Native Americans is? How might this be the same as career education for other kinds of Americans? How might it be different?

*If your class is not at ease with discussion, you may wish to rely less on discussion activities like this one. As an alternative, ask the students to answer the given questions in writing. Or you might present the information here in lecture form.

6. Why do you think we are going to study Native American Career Education now? How do you think that this type of education can play an important part in your life? What kinds of things do you think you need to learn about careers?

Now pass out the brief reading titled, "What Native American Career Education Is All About" (pp. 8-10 in this Guide), or read this material to students. After students have read or heard the material, ask them to discuss and expand on it. Focus student attention on certain key ideas by repeating some of the earlier discussion questions. Ask, "How can Native American Career Education play an important part in your life? What kinds of things do you think you need to learn about careers?"

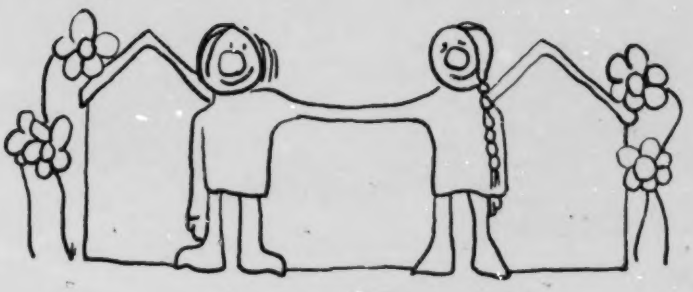
These lines are taken from the poem "New Way, Old Way," published by <u>*The Writers' Reader*</u>*, 1964, copyright 1969. Used by permission of the author, a former student at the Institute of American Indian Arts, Santa Fe, New Mexico, a Bureau of Indian Affairs school.*

We shall learn all these devices
The white man has.
We shall handle his tools
For ourselves.
We shall master his machinery,
his inventions,
his skills,
his medicine,
his planning;
But we'll retain our beauty
And still be Indian.

David Martin Nez

7

What Native American Career Education Is All About



All over the country, Indian students, parents, and communities are asking, "How can we find good jobs?" This is not an easy question to answer. Finding the job that is right for you will take a great deal of thinking and planning.

First, you have to learn about the many different kinds of jobs that people can have today. Then you have to think about what kind of job you think would be right for *you*. And, finally, you have to decide what you need to do to get ready for the jobs that interest you.

The time for choosing a career may seem to be a long way off, but it really isn't. Before you know it, you will be graduating from high school. Then you will have to decide important things like: Should I go to college? If I do go to college, what should I study? How should I get ready for a career? What kind of job would be right for me?

Making big decisions like these will be much easier if you begin thinking about them and PLANNING for them now. Planning for a career should begin long before you actually start working. Career education will help you to begin planning what you would like to do five or ten years from now.

The Native American Career Education program has been written especially for Native American students. You will learn two kinds of things from taking part in the activities in this program. First, you will learn things you need to know *about jobs:* what they are, how you should prepare or train for them, and where you can go to find out more about them. Second, you will learn *about yourself.* In many of the activities in this program, you will be asked to think about questions like: Who am I? What do I like? What type of career would be good for me?

During most of the Activities in this program, you will be working in small groups of about five or six students each. Doing this should help you learn to work together with your classmates to solve problems and answer questions. You can even have some fun while you are learning from one another!

Learning how to explain your ideas to others and how to listen to them explain their ideas is a very important part of career education. When you think about it, you'll see that you spend most of your life in some sort of group, whether it's the family group, a group of friends or classmates, or a work group. Learning how to be comfortable in groups will help you all your life.

So while you are learning new things about careers, be ready to learn new things about your classmates and yourself at the same time.

Have fun!

Introducing the Unit

To begin, distribute copies of the cartoon (page 13 in this Teacher's Guide) or pass the book around so students can see the cartoon. Instruct the students to study the cartoon for a few minutes. Then instruct them to write down as many different jobs as they can find in the cartoon. When they have finished, ask them to share their lists and lead them in a brief discussion about the cartoon. Write the job titles on the board. Discuss some of the responsibilities of each job.

Then ask students if these people (in their various jobs) depend on one another. Ask them, more specifically, to point out two people in the cartoon who do need one another. An obvious response here would be the doctor and the nurse. Encourage students to make less obvious connections too; for instance, the gas station attendant depends on the policewoman for protection, the barber depends on the librarian to suggests good books to read, etc.

Encourage students to perceive that, in one way or another, we all depend on one another; that all people in all types of jobs must work together to make things and provide services. It is this reciprocity--this sharing of individual skills and resources--that makes a society work.

Now pass out the short reading, "What This Book Is About" (pp. 14-15 in this Guide) and give students a few minutes to read it, or else read it to them. Tell students that in this unit they will be learning about some of the many different kinds of jobs that are available to them today, and about the ways in which these jobs are similar to jobs done by all people at all times in order to meet basic human needs. They will learn about several career "clusters;" about both inter- and intra-cluster dependency; and about interests, aptitudes, and values and how they relate to occupational preferences.

Explain that they will see how people choose careers personally suited to them, based upon their recognition of their interests, aptitudes, and values. As students read this book and take part in its Activities, they will be helped to discover what their own interests, aptitudes and values are, and they will be asked to think about which of the fifteen career clusters presented in the unit seem to match their own personal career goals most closely. Thinking about these things will, hopefully, begin to prepare students for the career-related decisions they must make in the not-too-distant future.

Somewhere during this introductory discussion, bring up the idea that the total job picture is changing rather rapidly today. Modern technology and specialization have caused many new jobs to appear, but they have also made older ones vanish. You might ask students if they can think of any jobs their parents or grandparents knew of, which no longer exist today. If you wish, you can go from here into a discussion about the advantages and disadvantages of specialization and modern technology.

A second way in which the job picture is changing concerns the entrance of increasing numbers of women into the job market since World War II and the increasing number of jobs which (thanks to pressure from women's groups and others) are available to women on an equal basis with men. You might ask students what occupations they have seen women employed in today which would not have traditionally employed women; and/or, if they can think of any jobs which women (or men) cannot or should not do, and if so, why. (Lead the students to see that there are few, if any, jobs which must be limited to one sex.)

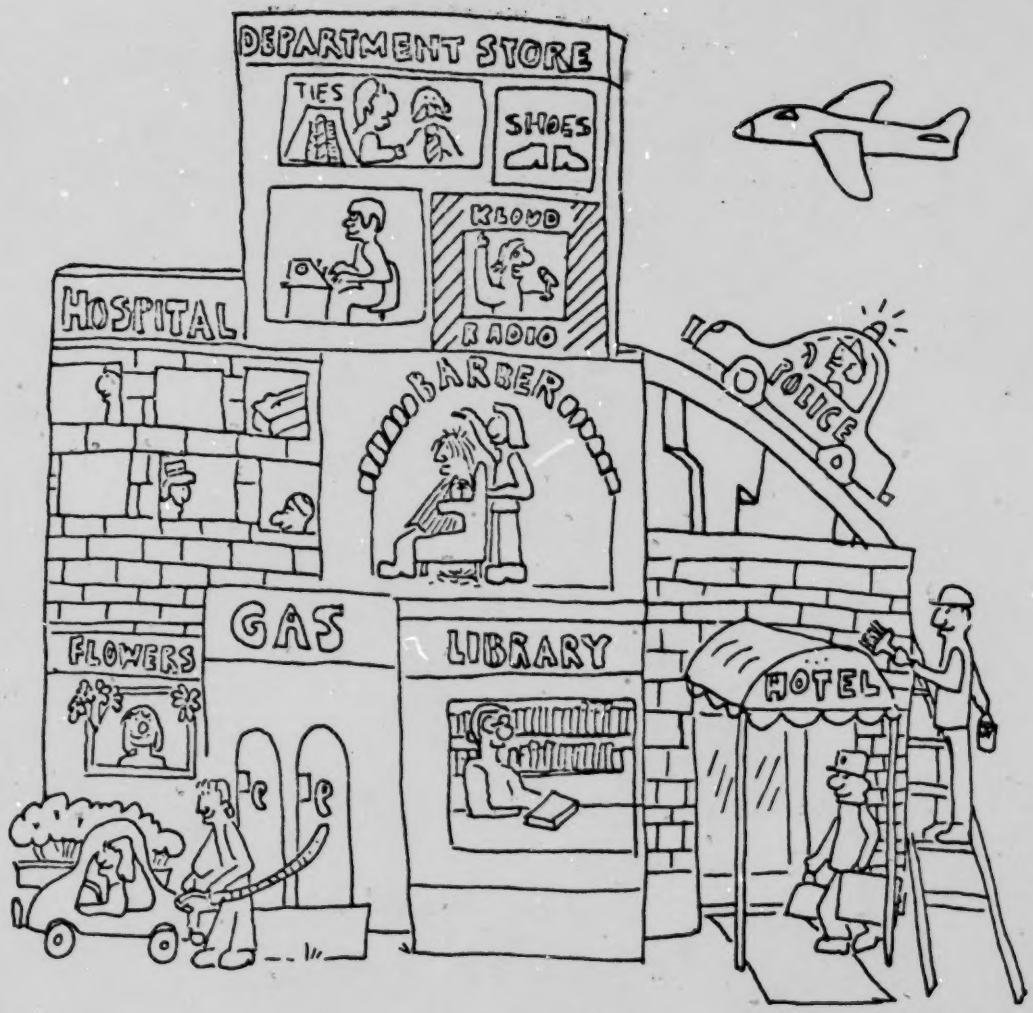
As you conclude the introduction to the unit, you should also discuss the following points briefly:

> The students will be asked to work together in small groups for many of the Activities in this unit. There are two reasons for this. First, small group work has been found to be a good way of doing the types of activities which this unit involves and, second, small group work will expose the students to the kinds of group situations which they will experience in most jobs.

Review

Before beginning Activity 1, review what you have done so far in class. If you have introduced the unit successfully, the students should be able to supply a general answer for each of the following questions:

1. What does Native American Career Education mean?
2. What is the book *Putting It All Together* going to be about?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BARBER
POLICE
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What This Book Is About

How many different jobs
can I choose from?
What kind of job would
be right for me?
What do my interests,
aptitudes, and values
have to do with my
career choices?

Have you ever asked yourself questions like these? They are not easy questions to answer. But then, choosing the right job is not an easy thing to do. There are so many things to think about: "What do I really like to do?" "What am I good at doing?" "What kind of job would let me do the things I like to do and am good at doing?" In this unit you will learn how to begin answering questions like these.

You will find out about some of the many different kinds of jobs you can choose from today. And you will also learn about some kinds of work that Native Americans did many, many years ago. You will see that work "then" and work "now" are not so different. Now, as then, people must work together to meet their basic needs: *food, shelter, aids, and security.*

You will read about fifteen different *career clusters* in this unit, too. Career clusters are groups of jobs that have something in common. For instance, a doctor, a nurse, and a hospital manager all have something in common--they all help sick people get well and help healthy people stay healthy. Doctors, nurses, and hospital managers all belong to a career cluster named "HEALTH." And there are many more clusters.

Each career cluster is a "team" of people who are trying to do the same kinds of things. Putting certain kinds of jobs together (career clustering) will help you to understand the many different kinds of jobs that are around today and how they are related to each other.

You can also find out how people in different clusters work together. You will even be asked to make something yourselves, so that you can take part in the kind of cooperation that is needed when people with different skills work together to do one job.

After you learn about career clusters, you can begin to think about which of these "job families" seems best for you. To decide that, you need to think about what you like to do, what you are good at, and what is important to you. Do you like to "rap" with people and try tc help them? Do you like to fix broken things? Do you like to travel? Grow things? Dance? Solve math problems? Make things with your hands? The answers to these questions and others like them will help you decide what job is best for you.

Activity 1

CAREER CLUSTERS

GOAL: To help students understand the concept of career clustering and how career clusters relate to basic human needs.

OBJECTIVE: Students will identify several occupations in each of fifteen career clusters and features which these jobs have in common; and they will relate the work of these clusters to the meeting of four basic human needs in both a traditional and a contemporary society.

WHAT STUDENTS WILL BE ASKED TO DO

- Identify features which related occupations have in common
- Study descriptions of fifteen career clusters
- Think of jobs that could belong to each cluster
- Read about and identify four basic needs: Food, Shelter, Aids, Security
- Compare and contrast traditional and contemporary cultures in terms of the fifteen career clusters
- Identify the basic need(s) met by each career cluster
- Take a test to assess understanding and retention

PREPARING FOR CLASS

If you have access to duplicating facilities, duplicate one copy per student of each of the following:

Exercise 1. Picture Study: What Makes Them Alike? (p. 19 in this Guide)

Exercise 2. Reading: Fifteen Career Clusters (pp. 21-23 in this Guide)

Exercise 3. Naming Jobs: How Many Jobs Can You Think Of? (p. 28 in this Guide)

Exercise 4. Reading: Basic Needs (pp. 30-32 in this Guide)

Exercise 5. Reading: Career Clusters Then and Now (pp. 35-42 in this Guide)

Exercise 6. Review: What Did You Learn? (pp. 44-45 in this Guide)

PROCEDURE*

Specialization and modern technology have recently given rise to thousands of new occupations, as well as having caused some old occupations to vanish. Today's job market includes more than 30,000 different kinds of jobs. In order to help students relate to this awesome array of career choices, various classification systems have been devised.

The classification system used in this unit is called "career clustering." A "cluster" is simply a collection, group, or family of occupations which involve similar goals and/or skills. There are many different opinions about ways to group careers. This unit organizes careers according to the 15 clusters outlined by the United States Department of Education, to wit:

1. Agri-business and Natural Resources
2. Business and Office Occupations
3. Communications and Media
4. Construction Occupations
5. Consumer and Homemaking-Related Occupations
6. Environmental Control Occupations
7. Fine Arts and Humanities
8. Health Occupations
9. Hospitality and Recreations Occupations
10. Manufacturing Occupations
11. Marketing and Distribution Occupations
12. Marine Science Occupations
13. Personal Service Occupations
14. Public Service Occupations
15. Transportation Occupations

Career clustering allows students to relate to general categories (such as Health, Transportation, and Public Services) and identify certain occupations associated with each. It should help them to identify areas which are of particular relevance to them in terms of their personal goals, values, and interests. They can then investigate further the careers within these high-interest fields.

Ask students if they have ever thought or noticed that some jobs are related to each other or like each other--that they have to do with a lot of the same things. To get students started in this idea, you might play a kind of "word association" game with the class. Name a job title with which students are likely to be familiar, such as "nurse," and ask students to name some kind of other job that this one makes them think of. Chances are it will be another job in the same cluster. For instance, "nurse" would probably suggest

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*Remember that the directions given in this Teacher's Guide are only *suggestions*. Use them to create a course which best suits you, your individual students, and the amount of time which is available.

"doctor"; "truck driver" might suggest "taxi driver"; and so on. Students should not be criticized if their "associations" happen not to be in the same cluster as the job named, but when the two jobs *are* in the same cluster, try to bring out the points that these jobs have in common (or ask students to tell in what way the jobs are alike). In this way the class may actually arrive at informal definitions of some of the clusters on their own.

Exercise 1. Picture Study: What Makes Them Alike?

Explain to students that in this unit they are going to learn a way of grouping jobs together according to ways in which they are alike. This will help the students keep track of the many different kinds of jobs available today. Tell them that to begin with, they should think of reasons why certain jobs are somewhat alike--that is, features the jobs have in common.

Pass out the cartoon page for Exercise 1 (p. 19 in this Guide) or pass the Guide around so that students can see the pictures; or, if necessary, just name the three jobs in each of the three groups. The students' task is to say how the three jobs in each of the three groups are related. You could make this exercise short written homework assignment, or you can use the cartoons to stimulate class discussion.

When students have finished trying to explain how the jobs in each group are alike, point out that:

1. *The doctor, the nurse and the ambulance driver* all help sick people. Their jobs belong to the HEALTH cluster.

2. *The carpenter, the plumber, and the electrician* all build or repair homes and other buildings. Their jobs belong to the CONSTRUCTION cluster.

   The flight attendant, the pilot, and the airplane mechanic all help people get from one place to another. Their jobs belong to the TRANSPORTATION cluster.

Ask students to suggest further jobs that might belong to each of these three clusters.

Other jobs which could be included in each of the three clusters are:

HEALTH	CONSTRUCTION	TRANSPORTATION
Dentist	Bricklayer	Flight Attendant
Hospital Administrator	Painter	Railroad Engineer
Operating Room Technician	Glass Installer	Airplane Mechanic
Psychiatrist	Wallpaper Hanger	Driving Instructor
Occupational Therapist	Pipefitter	Ship Crew
Pharmacist	Plasterer	Air Traffic Controller
Veterinarian	Roofer	Ticket Agent
Nurse's Aide	Engineer	

EXERCISE 1. PICTURE STUDY: WHAT MAKES THEM ALIKE?

Look at the groups of people in the picture below. The three people in *each* group are doing jobs which are alike in some way. Can you figure out what makes the jobs alike?

Exercise 2. Reading: Fifteen Career Clusters

In this exercise, students will be asked to read and discuss a short description of each of the fifteen career clusters.

Pass out the "Fifteen Career Clusters" chart (pp. 21-23 of this Guide), read the chart to students or place it on the board. Explain that now that they know what a "career cluster" is and have thought a little about three clusters, they are ready to have allook at all fifteen clusters. They shouldn't worry about being able to remember all fifteen clusters; that isn't important right now. It is important that they begin to understand the idea of career clusters--that jobs which have something in common can be put together in one group. This kind of grouping can make it easier for them to keep track of the many different kinds of jobs that are around today.

When students have read or heard the material on the chart, discuss each of the cluster definitions with them. Be sure to explain any words in the definitions which they do not understand.

EXERCISE 2. READING: FIFTEEN CAREER CLUSTERS

CLUSTER NAME	WHAT PEOPLE IN THE CLUSTER DO
AGRICULTURE	Grow crops and raise animals for food; take minerals out of the earth for fuel and other uses; raise trees for wood and paper.
BUSINESS	Do different kinds of jobs to keep businesses running, such as business management, typing, accounting and bookkeeping.
COMMUNICATION	Communicate ideas and facts through radio, television, newspapers, magazines and telephones.
CONSTRUCTION	Build or repair homes and other buildings.
HOMEMAKING	Help make homes safe, comfortable, and pleasant.
ENVIRONMENT	Work to preserve and protect the world we live in.

CLUSTER NAME	WHAT PEOPLE IN THE CLUSTER DO
FINE ARTS AND HUMANITIES	Do jobs connected with learning, justice, entertainment, or art; artists, teachers, lawyers, writers and many others belong to this cluster.
HEALTH	Take care of the sick and help them get well; tell people how to take care of themselves; prescribe medicine.
HOSPITALITY AND RECREATION	Help to make people's spare time activities fun, safe, and enjoyable
MANUFACTURING	Work with machines to cut and shape metal, wood and other materials into finished products.
MARKETING AND DISTRIBUTION	See that products get from factories to stores; sell products to the public.

CLUSTER NAME	WHAT PEOPLE IN THE CLUSTER DO
MARINE SCIENCE	Study the sea, fish and other animals and plants that live underwater.
PERSONAL SERVICES	Care for other people and their belongings; help to make people's lives clean and comfortable.
PUBLIC SERVICES	Protect and improve life and property by performing services such as street cleaning, garbage collecting, police or fire duty, delivering mail.
TRANSPORTATION	Move people and products from one place to another by highway, railroad, air or water.

Exercise 3. Naming Jobs: How Many Jobs Can You Think Of?

After you have gone over the fifteen cluster names and definitions with students, instruct them to divide into their workgroups. Explain that their main task in this exercise will be to try to think of as many jobs as they can which will fit into each of the fifteen clusters they have just learned about. Pass out paper so that the groups can write down the jobs they "brainstorm."

Before students begin the exercise, warn them that it will be easier to think of jobs or occupations to fit in some clusters than it will be for others. This is because some clusters are very broad and contain many different types of occupations (such as Humanities and Fine Arts) and others are much more limited in scope (such as Marine Science). Tell them not to worry if they can think of only a few (or can't think of any) occupations in some clusters. They will learn more about all of the clusters later.

Give students about ten minutes to think of jobs for the clusters. Recommend that they look back at the cluster names and definitions on their sheets. When students have finished, write each of the fifteen clusters on the board and ask students to give you the names of some of the occupations their groups have thought of for that cluster. Add a few of your own to the list. (A fairly extensive list of jobs for each of the fifteen clusters, for your use throughout this Activity, appears on pages 25-27 of this Guide.)

You should also pass out copies of the job sheet on page 28 of this Guide (or draw it on the board). It names several jobs in each of the fifteen clusters. Discuss any jobs which are not familiar to the students.

You may wish to make a class list or display of jobs for each cluster and set it up somewhere in the classroom. You should also suggest that students begin thinking about which clusters interest them most. They might even write down the names of their favorite two or three clusters, for reference later.

CAREER CLUSTERS AND OCCUPATIONS

AGRIBUSINESS AND NATURAL RESOURCES

Forester
Hatchery Supervisor
Campground Caretaker
Fish and Game Warden
Forest Fire Guard
Zoo Keeper
Miner
Cattle Rancher
Crop Farmer
Dairy Farmer
Horseshoer
Crop and Soil Scientists
Zoologist
Botanist

BUSINESS AND OFFICE OCCUPATIONS

Accountant
Computer Programmer
Typist
Office Manager
Business Executive
Stenographer
Receptionist
Key Punch Operator
Bookkeeper
Credit Manager
Statistician

COMMUNICATIONS AND MEDIA

Newspaper Reporter
Radio-TV Announcer
Editor
Proofreader
Camera Operator
Advertising Specialist
Telephone Service and Repair Person
Journalist
Radio-TV Technician
Switchboard Operator
Telephone Installer
Textbook Salesperson

CONSTRUCTION

Carpenter
Electrician
Bricklayer
Painter
Plumber
Glass Installer
Wallpaper Hanger
Engineer
Building Contractor
Pipefitter
Plasterer
Roofer

CONSUMER AND HOMEMAKING RELATED

Home Economist
Child Care Assistant
Interior Decorator
Model
Clothes Designer
Household Goods Salesperson

ENVIRONMENTAL CONTROL

Soil Conservationist
Air Pollution Analyst
Industrial Health Engineer
Environmental Scientist

CAREER CLUSTERS AND OCCUPATIONS

FINE ARTS AND HUMANITIES

Museum Curator
Writer
Librarian
Minister
Teacher (Elementary, Secondary, College)
Urban Planner
Judge
Lawyer
Musician
Artist
Actor
Actress
Dancer
Photographer
Commercial Artist
Composer
Poet
Popular Singer
Historian
Cartoonist

HEALTH

Doctor
Dental Hygienist
Optician
Hospital Administrator
Nurse (Practical, R.N.)
Operating Room Technician
Dietician
Psychiatrist
Psychologist
Ambulance Attendant
Occupational Therapist
Dentist
Nurse's Aide
Pharmacist
Veterinarian

HOSPITALITY AND RECREATION

Playground Supervisor
Park Ranger
Restaurant Manager
Travel Guide
Sports Instructor
Professional Athlete
Community Center Director
Camp Counselor
Camp Director
Life Guard
Hotel Manager

MANUFACTURING

Machinist
Assembler
Sheetmetal Worker
Machine Operator
Seamstress
Printer
Welder
Tool and Die Maker

MARKETING AND DISTRIBUTION

Buyer
Salesperson
Fashion Coordinator
Wholesaler
Cashier
Bank Teller
Truck Driver

CAREER CLUSTERS AND OCCUPATIONS

MARINE SCIENCE

Underwater Photographer
Marine Biologist
Diver's Helper
Oceanographer
Marine Architect
Marine Researcher

PERSONAL SERVICES

Insurance Agent
Maid
Barber
Cosmetologist
Restaurant Manager
Funeral Director
Butcher
Florist
Employment Counselor
Laundry Worker
Dry Cleaner
Waiter/Waitress
Parking Attendant

PUBLIC SERVICES

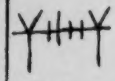
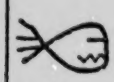
Postal Clerk
Mail Carrier
Sanitation Engineer
Public Utility Worker
City Planner
Social Worker
FBI Agent
Policeman/Policewoman

TRANSPORTATION

Flight Attendant
Railroad Engineer
Auto Mechanic
Airplane Mechanic
Ship Crew
Driving Instructor
Bus Driver
Truck Driver

EXERCISE 3. NAMING JOBS: HOW MANY JOBS CAN YOU THINK OF?

CAREER CLUSTERS

AGRICULTURE	ENVIRONMENT	MARKETING
CATTLE RANCHER FARMER FISH HATCHER FORESTER MINER	AIR POLLUTION SPECIALIST ENVIRONMENTAL SCIENTIST FOREST FIRE FIGHTER INDUSTRIAL HEALTH SPECIALIST SOIL CONSERVATIONIST	 CASHIER BUYER MARKET ANALYST SALESPERSON WHOLESALER
BUSINESS	**FINE ARTS & HUMANITIES**	**MARINE SCIENCE**
ACCOUNTANT BOOKKEEPER KEY PUNCH OPERATOR OFFICE MANAGER SECRETARY	ACTOR ARTIST LAWYER LIBRARIAN TEACHER	 DIVER MARINE ARCHITECT MARINE BIOLOGIST OCEANOGRAPHER UNDERWATER PHOTOGRAPHER
COMMUNICATIONS	**HEALTH**	**PERSONAL SERVICES**
CAMERA OPERATOR EDITOR NEWSPAPER REPORTER TELEPHONE INSTALLER RADIO-TV ANNOUNCER	DOCTOR DENTIST NURSE PHARMACIST VETERINARIAN	BARBER FUNERAL DIRECTOR LAUNDRY WORKER TAILOR WAITRESS
CONSTRUCTION	**RECREATION**	**PUBLIC SERVICES**
CARPENTER ELECTRICIAN ENGINEER PAINTER PLUMBER	HOTEL MANAGER PARK RANGER RESTAURANT MANAGER SPORTS INSTRUCTOR TRAVEL GUIDE	MAIL CARRIERS POLICE PUBLIC UTILITY WORKERS SANITATION ENGINEERS SOCIAL WORKERS
HOMEMAKING	**MANUFACTURING**	**TRANSPORTATION**
CLOTHES DESIGNER CHILD DAY CARE WORKER HOME ECONOMIST INTERIOR DECORATOR MODEL	ASSEMBLER MACHINIST SEAMSTRESS SHEETMETAL WORKER WELDER	AUTO MECHANIC BUS DRIVER FLIGHT ATTENDANT PILOT RAILROAD ENGINEER

Exercise 4. Reading: Basic Needs

Pass out the reading on pages 30-32 of this Guide, or read it to students. This material describes the four basic human needs: FOOD, SHELTER, AIDS, and SECURITY. It is intended to give students a universal perspective from which to compare two seemingly divergent cultures, that of the United States in our own time and that of American Indian tribes 200 years ago; they will do this in the next exercise.

After students have read or heard the material about the four basic needs, discuss it with them. Help them see that people of all times and cultures are basically similar and that all must meet the same four fundamental human needs: Food to eat, shelter from unwelcome elements, aids to help provide food and shelter, and physical and psychological security.

EXERCISE 4. READING: BASIC NEEDS

The fifteen career clusters you've been studying may look very modern to you. Most of the jobs you have talked about may seem like ones that could exist only today. But you will see that in many ways they are not very different from jobs Indian people did two hundred years ago.

"But how can work done today be anything like the work done by Indians over 200 years ago?" You may be asking. The work can be alike because work is done for people and by people--and people don't really change very much. There are certain BASIC NEEDS which all people in all times must meet. Can you name one BASIC NEED that we and our Indian ancestors share?

One BASIC NEED that all people have is the need to EAT. No matter who they are, when they live, or where they live, people always have to think about getting and preparing FOOD. There were no supermarkets 200 years ago. How and where did Indian people find food then? What do you think they ate?

The Indians got their food from the natural world around them. Have you ever eaten food which came directly from nature, such as fruit from a tree, vegetables from a garden, or fish that were just caught? How did you go about getting it? How did it taste?

A second basic need is for protection from things like wind, rain, and snow. This protection is called SHELTER. A shelter is any kind of building or structure that people live in. Do you know what kind of shelters the people of your tribe lived in 200 years ago?

The kind of shelters people build will depend on the kind of climate (weather area) they live in. If they live in a very dry, hot climate, they will need less shelter than they would if they lived where it was wet and cold. What kind of shelters do you think you would build if you lived in a very cold place like Alaska or a northern part of the United States? What other things would you need to protect you from the cold?

The third basic need is for AIDS. An aid is anything that helps you do something. The most common kinds of aids are TOOLS. If you were an Indian 200 years ago, you would need tools to get food and build shelter. What types of tools would you need to do each of these things?

Many of the tools which we use today to get food and shelter, such as fishing poles, hoes, and hammers, are the same kinds of tools our Indian ancestors used over 200 years ago. Modern technology may have made these tools stronger and easier to work with, but they are still basically the same tools that people of many different races have used for thousands of years.

The fourth and last "basic need" is the need for SECURITY. What does "being secure" mean?

It means that you feel safe and happy, that you feel at peace with your people and your world. To be secure, you must feel safe from unfriendly people or animals. But being secure means more than this. It also means feeling safe "inside." What makes a person feel safe inside?

Other people, your friends and family can make you feel secure. They can give you a sense of belonging, of love, of happiness.

Religion can also help you feel secure. Believing in something beyond the world as you know it, something which seems to be guiding what you do, can sometimes help you feel safe inside. Another way to feel secure is to be able to create something which expresses your feelings. Art, dance, music, and writing help people feel safe inside by allowing them to recreate the beauty and mystery of the world around them.

If you were an Indian 200 years ago, you would have had to meet the need for SECURITY. How do you think you might have met this need?

The four BASIC NEEDS of an Indian tribe living 200 years ago were:

1. Food
2. Shelter
3. Aids
4. Security

Your basic needs today are just the same. No matter what time or place people live in, they all need food, shelter, aids, and security.

But different cultures of people living in different times have had different ways of meeting those needs, as you may know. No one culture's ways are any better or any worse then another culture's. They are just different. What seems right in one place at one time may seem wrong in another place at another time. Each society will meet its needs in its own ways; and that is as it should be.

Exercise 5. Reading and Comparing: Career Clusters, Then and Now

In this exercise, students will examine a series of short statements and drawings which compare Indian culture of 200 years ago with modern "mainstream" American culture in terms of jobs and attitudes connected with the fifteen career clusters. Among other things, this cultural comparison should make the career clusters seem less alien to students as they perceive that these clusters represent concerns which were shared by the Indians and, indeed, by all people of all times.

Pass out and have students read the material and study the fifteen drawings on the "Career Clusters: Then and Now" sheets (pp. 35-42 of this Guide); or read the material to students and pass the book around so they can see the drawings. When students have read or heard the material, discuss both text and drawings with them.

Point out that although Indians certainly didn't have anything they called "career clusters," they did assign certain jobs to certain people (mainly according to age and sex). Those jobs were necessary to the well-being of the whole community. They provided for the same four basic needs as modern jobs do, and provided for them well, although the ways of providing for those needs were very different from the ways used in most parts of America today. As students studied the statements and drawings, they had a chance to see both ways in which Indian culture and modern American culture were alike and ways in which they were different. Ask students to name pertinent similarities and differences during your discussion.

At the same time, you should emphasize that students should avoid making rigid value judgements about the merits of one system versus another. Explain the dangers of ethnocentrism (the belief that one's ethnic group is superior to all others). Different times produce different ways of doing things. This is not to say that students should not be encouraged to perceive the advantages and disadvantages of each system; only that they should not try to label one system "all good" and the other "all bad."

When discussing similarities between the two cultures, point out to students that many seemingly new ideas have been held by Indian people for a long time. For instance, the newly affirmed concern for man's role in the balance of nature is one which Indians have understood and guided their lives by for centuries. Stress, too, that the concept of democracy in this country did not originate with the signing of the Declaration of Independence, but rather with Indian tribal governments which were practicing democratic principles long before white settlers set foot on this land.

When discussing differences between the cultures, point out that work roles in traditional communities were fairly simply defined and were often prescribed according to age, sex and immediate needs; work roles in contemporary society are more diverse and the individual has more opportunity for choice. Ways of providing for basic needs also varied greatly: traditional methods were compatible with relatively simple agrarian life-styles, while contemporary methods accommodate a much more complex, technologically advanced society.

After students have read and discussed the comparison material, write the names of the four basic needs (FOOD, SHELTER, AIDS, SECURITY) on the board. Then ask students to write the name of each of the fifteen career clusters on a sheet of paper and, after each cluster name, write which of the four needs each cluster meets. A cluster may meet more than one basic need.

Suggested answers:

1. Agriculture: FOOD, possibly SHELTER (skins used to make tents, etc.)
2. Business: SECURITY (or, indirectly, could provide for all needs).
3. Communications: SECURITY.
4. Construction: SHELTER, possibly AIDS.
5. Homemaking: SHELTER, SECURITY, possibly FOOD (preparation of).
6. Environment: SECURITY, possibly FOOD (protecting environment projects food supply).
7. Fine Arts: SECURITY.
8. Health: SECURITY.
9. Recreation: SECURITY.
10. Manufacturing: AIDS.
11. Marketing: AIDS; indirectly, FOOD and SHELTER (and possibly SECURITY).
12. Marine Science: FOOD, SECURITY (environmental protection).
13. Personal Services: SECURITY, possibly FOOD (preparation).
14. Public Services: SECURITY.
15. Transportation: indirectly helps to meet all four needs.

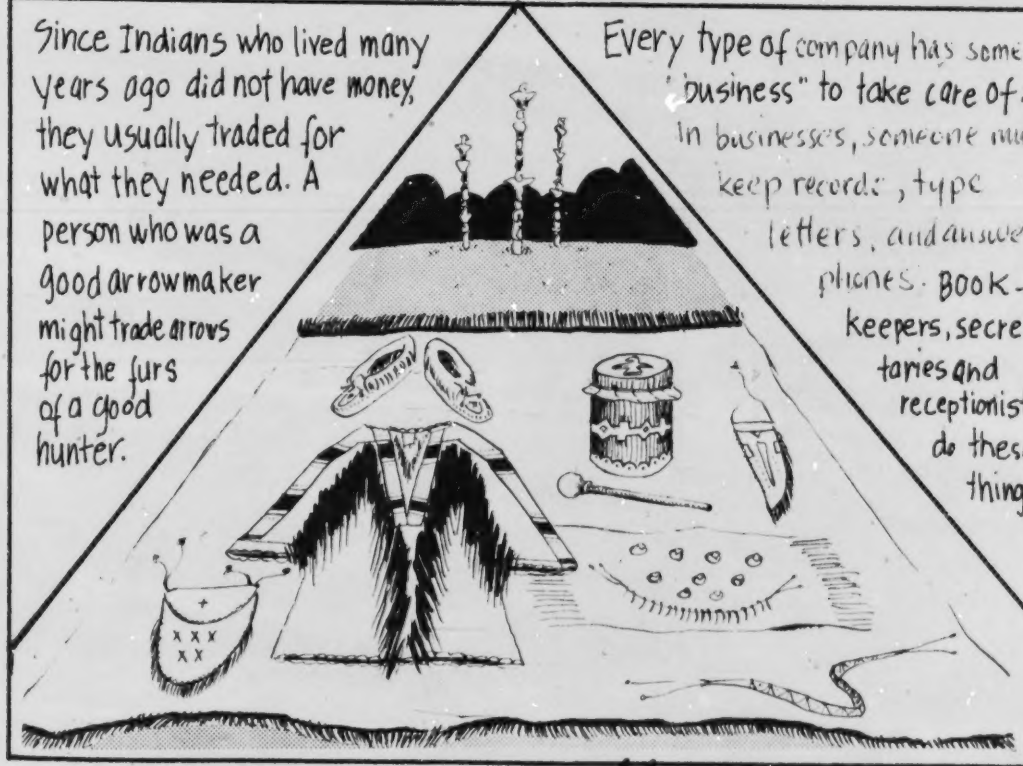
Agriculture

Indians were very good farmers. They raised many many different kinds of crops including corn, potatoes and beans. They were good hunters, too. They used animals for clothing and food.

With the help of modern machines, farmers can raise enough food to feed people in other countries as well as in America. In this cluster are miners, foresters and cattle ranchers.

Business

Since Indians who lived many years ago did not have money, they usually traded for what they needed. A person who was a good arrowmaker might trade arrows for the furs of a good hunter.



Every type of company has some "business" to take care of. In businesses, someone must keep records, type letters, and answer phones. Bookkeepers, secretaries and receptionists do these things.

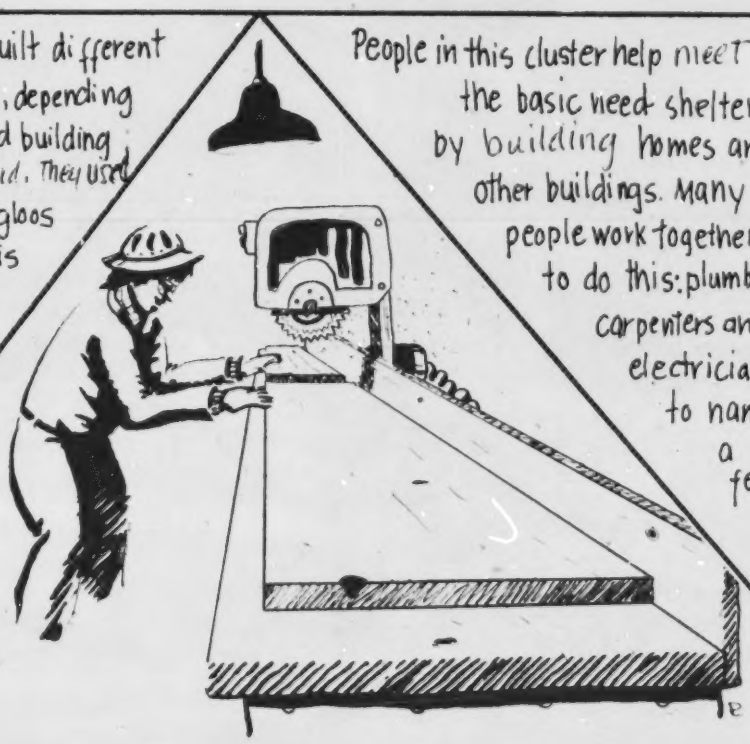
Communications

For many years Indians had no written language as we know it today. Storytellers passed legends on from one group to the next. Ideas took the form of pictures which stood for things like water, fire, and air.

Most people in this country today speak and write in the English language. People share thoughts and ideas in books, in newspapers, on radio and television - and of course, just by talking to one another.

Construction

Different tribes built different kinds of homes, depending on the climate and building materials they had. They used everything from igloos in the north to tipis and flat-roofed houses in warmer

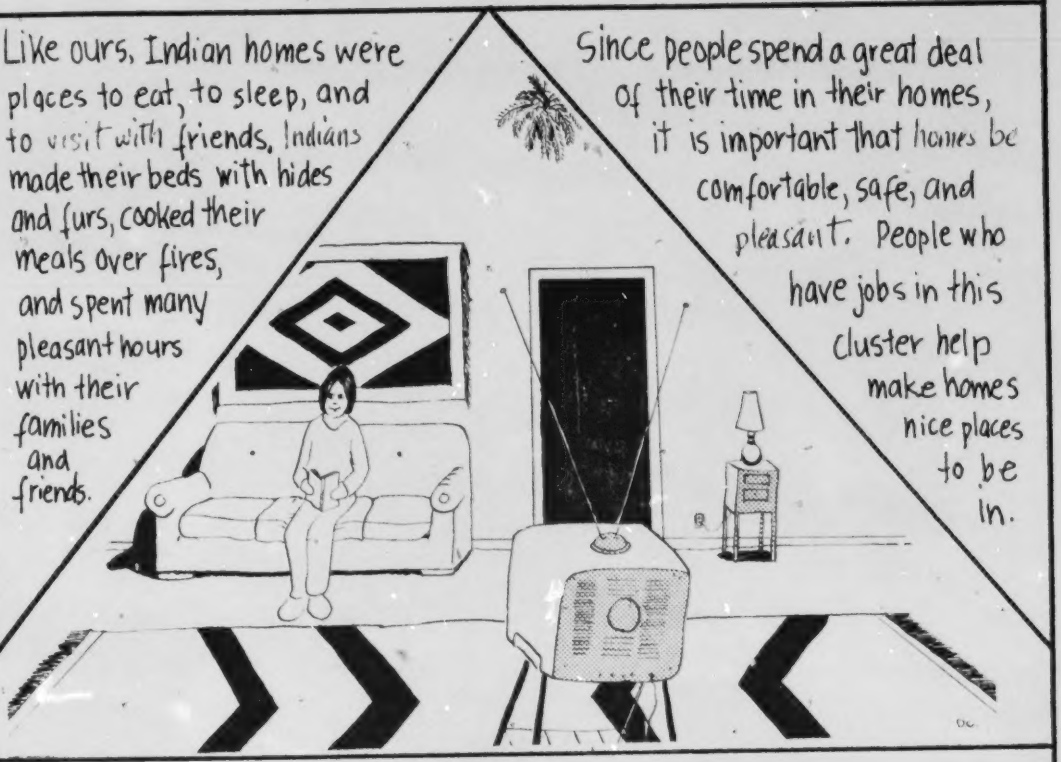


People in this cluster help meet the basic need shelter - by building homes and other buildings. Many people work together to do this: plumbers carpenters and electricians, to name a few.

Homemaking

Like ours, Indian homes were places to eat, to sleep, and to visit with friends. Indians made their beds with hides and furs, cooked their meals over fires, and spent many pleasant hours with their families and friends.

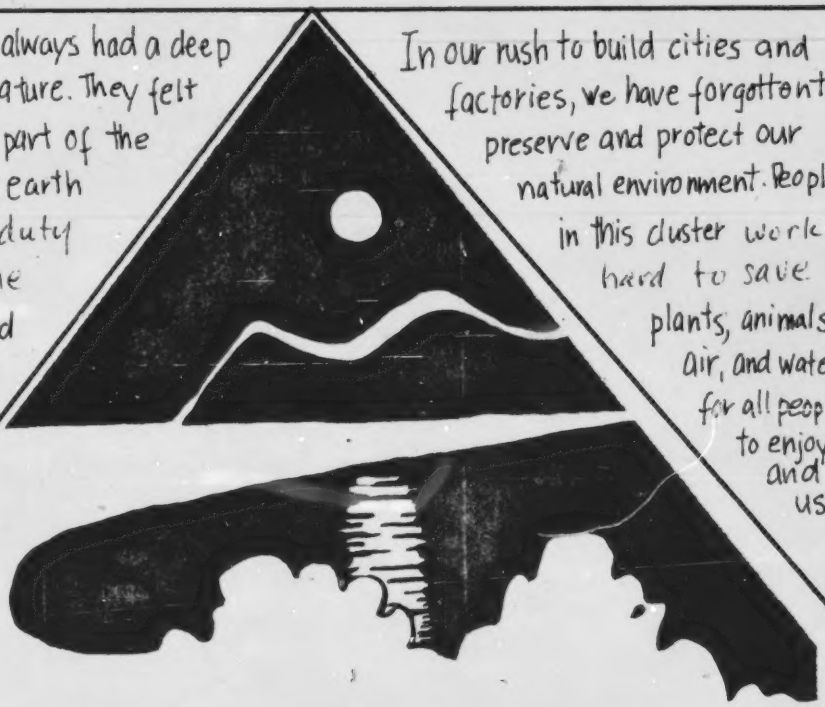
Since people spend a great deal of their time in their homes, it is important that homes be comfortable, safe, and pleasant. People who have jobs in this cluster help make homes nice places to be in.



Environment

Indians have always had a deep respect for nature. They felt they were a part of the sky and the earth and had a duty to keep the land green and clean and beautiful.

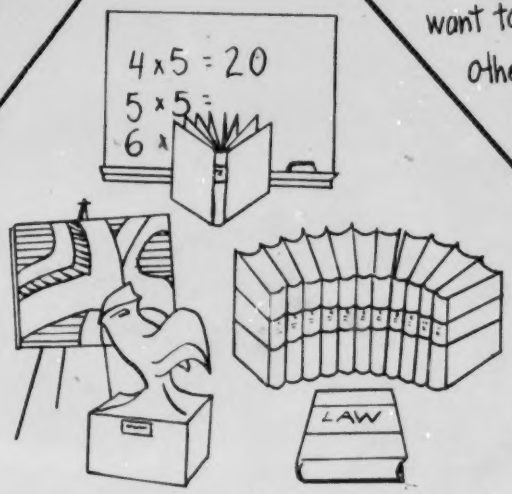
In our rush to build cities and factories, we have forgotten to preserve and protect our natural environment. People in this cluster work hard to save plants, animals, air, and water for all people to enjoy and use.



Fine Arts

Indian culture, religion, politics and art all combined into a total lifestyle. People respected each other for the special skills talents they had to offer the group.

All people need to create and to know. There are many jobs for people who want to learn and teach others about justice, wisdom and art: for lawyers, teachers, artists and others.



Health

Indians knew how to apply heat to sore muscles, how to set broken bones, and how to cure diseases with Healing practices were part of religious ceremonies that gave support and understanding to the sick.

People in this cluster help sick people get well and stay well. Modern medicine can cure many diseases. Dentists, doctors, druggists and nurses, to name a few, work together to do this.

Recreation

Many tribes held regular festivals. They celebrated things like a good crop, a New Year, and other special events. People danced, ate, played games, and gave thanks to the Great Spirit for good fortune.

People in today's society have more free time than ever before. People in this cluster help others enjoy life-They may fix a good meal in a restaurant or a comfortable room in a motel.

Manufacturing

Indians made the things they needed with their hands. They used almost everything around them (trees, animals, clay, rocks) to make everything from hunting and farming tools to canoes.

Today, almost all of the things we use are made with machines. People in this cluster are trained to make and use the machines that make things for us.

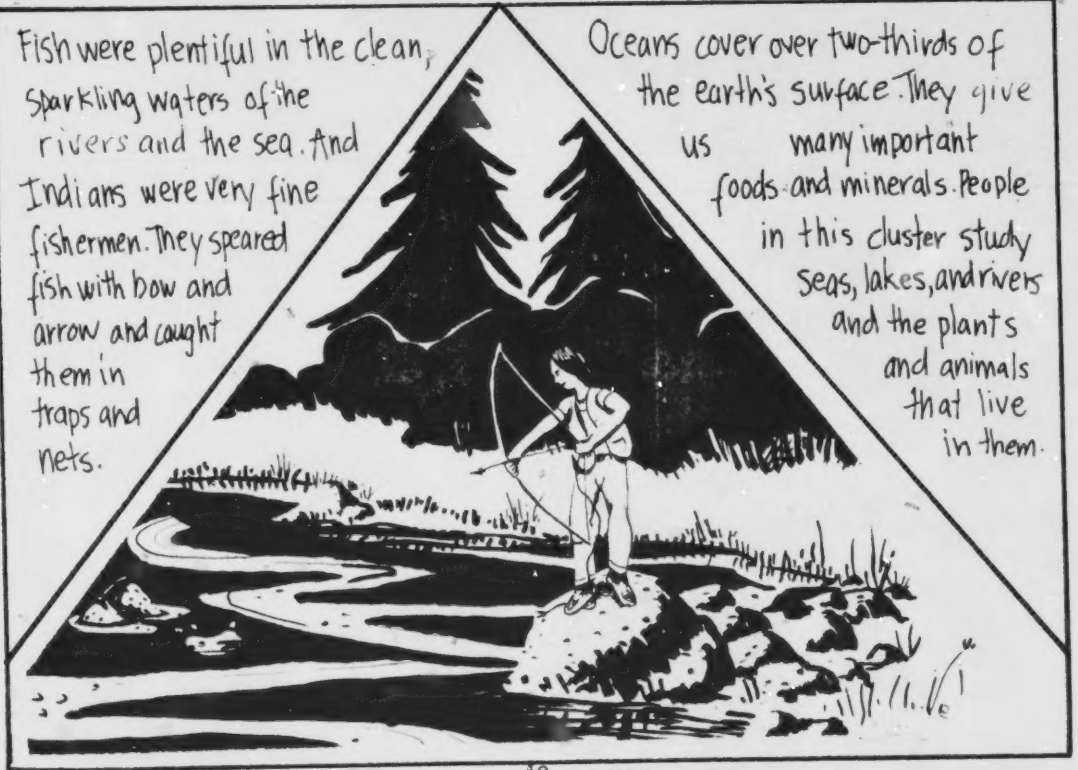
Marketing

Before Europeans came to this country, Indians simply shared what they had and traded for what they needed. After, they often "marketed" their handmade goods for the machine-made goods of the White settlers.

Once something is made, it is ready to be sold to people who need it. People in this cluster see to it that products get to the store and are sold to people who want to buy them.

Marine Science

Fish were plentiful in the clean, sparkling waters of the rivers and the sea. And Indians were very fine fishermen. They speared fish with bow and arrow and caught them in traps and nets.



Oceans cover over two-thirds of the earth's surface. They give us many important foods and minerals. People in this cluster study seas, lakes, and rivers and the plants and animals that live in them.

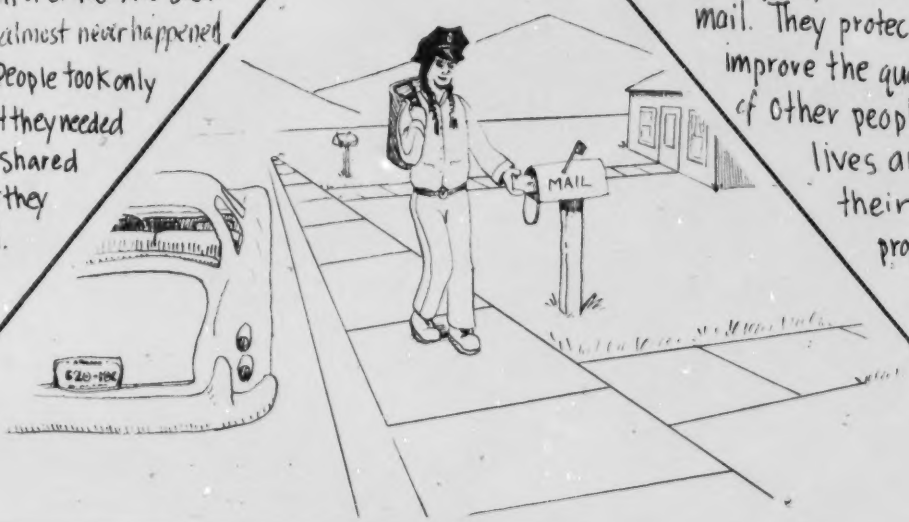
Personal Services

Indian women gave many "personal services" to their families. They made clothes, cooked, and made things they needed. Women were very important members of the tribe and had many rights.

Personal service workers care for people and their belongings. They offer many different kinds of services from cleaning and pressing clothes to cutting hair, to fitting clothes to repairing watches and other personal items.

Public Services

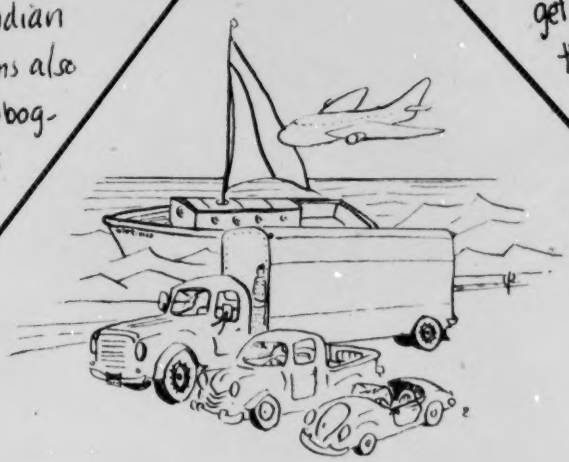
People in Indian societies were closely tied to one another and to the world in which they lived. Since no one "owned" the land, a crime like stealing almost never happened. People took only what they needed and shared what they had.



Workers in public service careers offer many different kinds of services like policing the streets, putting out fires, or delivering mail. They protect and improve the quality of other people's lives and their property.

Transportion

Indian trails ran straight from one place to another Many roads in the U.S. today follow old Indian trails. Indians also used canoes, Toboggans, and horses to move from one place to another.



Some people say the world is getting smaller. They say this because it is getting easier for people to get from one place to another in a hurry. People in this cluster move people and things by water, land and air.

Exercise 6. Review: What Did You Learn?

When students have finished reading and discussing the compare-contrast material and the human needs met by each of the fifteen career clusters, pass out the review questions for the Activity (pp. 44-45 of this Guide); or you may put the questions on the board or read them to students. Make sure students understand all the words in the questions. Give them about ten minutes to answer the questions. When they are finished, have them discuss the answers in their workgroups, or you can discuss them as a class.

Suggested Answers:

I. Matching

1.	Secretary	B. BUSINESS
2.	Newspaper Reporter	C. COMMUNICATION
3.	Home Decorator	E. HOMEMAKING
4.	Barber	M. PERSONAL SERVICES
5.	Teacher	G. FINE ARTS
6.	Salesperson	K. MARKETING
7.	Police Officer	N. PUBLIC SERVICES
8.	Farmer	A. AGRICULTURE
9.	Restaurant Manager	I. RECREATION
10.	Electrician	D. CONSTRUCTION
11.	Machine Operator	J. MANUFACTURING
12.	Oceanographer	L. MARINE SCIENCE
13.	Air Pollution Controller	F. ENVIRONMENT
14.	Airplane Pilot	O. TRANSPORTATION
15.	Nurse	H. HEALTH

II. Questions

1. What are some of the crops raised by Indians many years ago?
   A. *corn*, B. *potatoes*, C. *beans*

2. What has happened to our environment as we build more and more cities and factories? A. *Too much industry is harming the environment.*

3. How were Indian legends passed from one group to the next?
   B. *Storytellers told the legends.*

4. What do people who have jobs in the cluster called "MANUFACTURING" do? B. *Make and use machines which make products.*

5. Why do some people say the world is getting smaller?
   A. *Because it is getting easier to go from place to place.*

EXERCISE 6. REVIEW: WHAT DID YOU LEARN?

Answer the following questions on a separate sheet of paper. If you are not sure of an answer, check back over the you just read.

I. Matching

Number your paper from 1 to 15. Write the letter of the Career Cluster that each of the jobs on the left belong to. (You should use every letter once)

1. _____ 1. Secretary
2. _____ 2. Newspaper Reporter
3. _____ 3. Home Decorator
4. _____ 4. Barber
5. _____ 5. Teacher
6. _____ 6. Salesperson
7. _____ 7. Police Officer
8. _____ 8. Farmer
9. _____ 9. Restaurant Manager
10. _____ 10. Electrician
11. _____ 11. Machine Operator
12. _____ 12. Oceanographer
13. _____ 13. Air Pollution Controller
14. _____ 14. Airplane Pilot
15. _____ 15. Nurse

A. AGRICULTURE
B. BUSINESS
C. COMMUNICATION
D. CONSTRUCTION
E. HOMEMAKING
F. ENVIRONMENT
G. FINE ARTS
H. HEALTH
I. RECREATION
J. MANUFACTURING
K. MARKETING
L. MARINE SCIENCE
M. PERSONAL SERVICES
N. PUBLIC SERVICES
O. TRANSPORTATION

II. QUESTIONS:

For each question below, circle each correct answer (some questions have more than one). Write the correct answers on a separate piece of paper if your teacher tells you to.

1. What are some of the crops raised by Indians many years ago?

   A. corn B. potatoes C. beans

2. What has happened to our environment as we build more and more cities and factories?

   A. too much industry is harming the environment

   B. modern science is making the environment cleaner

3. How were Indian legends passed from one group to the next?

   A. people wrote and read the legends in books

   B. storytellers told the legends

4. What do people who have jobs in the cluster called "MANUFACTURING" do?

   A. grow or hunt food for people to eat

   B. make and use machines which make products

5. Why do some people say the world is getting smaller?

   A. because it is getting easier to go from place to place

   B. because the arth really is getting smaller

Activity 2

GOAL:	To help students understand career cluster interdependency
OBJECTIVE:	Students will take part in a simulated (or real) activity in which they work in small groups to design, build, and market a kite

WHAT SUTDENTS WILL BE ASKED TO DO

- Invent imaginary situations to illustrate cooperation and interdependency of jobs from different clusters
- List jobs involved in the making of common products
- Identify common products from lists of jobs required to make them
- Assign people to tasks according to interests and skills
- Cooperate and fulfill individual responsibilities in the designing, making and marketing of a simulated (or actual) product--a kite
- Evaluate their own and their group's performance in the kite-making exercises

MATERIALS YOU WILL NEED

For Exercise 4: (optional) kite-making supplies as follows:

- lightweight strips of wood (spruce, birch, bamboo)
- kite string or heavy white thread
- newspaper, model airplane tissue or tracing paper
- white glue or airplane cement
- cloth scraps or tissue and string for tail
- construction paper or poster board, crayons or felt-tip pens for kite posters

PREPARING FOR CLASS

If you have access to duplicating facilities, duplicate the following (one or one set per student unless otherwise noted):

Exercise 2. "Who Made It" Sample List (p. 51 in this Guide)

Exercise 4. Kite-Project Instructions (pp. 56-65 in this Guide), 1 set per group of 5 students

Exercise 5. Review Questions (pp. 67-69 in this Guide)

Get kite-making materials if possible; also get poster-making materials.

PROCEDURE

The first two exercises of this Activity will introduce students to the concept of career interdependency and cooperation. Subsequent exercises will ask students to apply their understanding of this concept to an imaginary (or real) situation which involves designing, constructing, and marketing their own product.

Begin by asking students to look around the classroom and to name some of the objects they see--pencils, paper, desks, etc. You may wish to list some of these items on the board. Then point to one of the items and say, "How do you think this thing was made? What different kinds of jobs might be involved in making it? What career clusters do those jobs belong to?"

Point out that, in this modern world, most objects are manufactured products and that most manufactured products require the cooperation of many different people and machines doing many different jobs. (If students have had in the Native American Career Education program, you may wish to recall material from this unit now.) The people doing these jobs--which may belong to a number of different career clusters--*depend* on one another's work to achieve a common goal. Point out that this is true even when a manufactured product is not involved; for instance, a doctor depends on nurses, hospital workers, pharmacists, etc. Explain that in this Activity, students will be studying how different jobs depend on one another and how people doing different jobs depend on one another. They will see "at first hand" how people doing different tasks must work together to produce a product or perform a service.

Exercise 1. Inventing Situations: Putting It All Together

Tell students that in this exercise, they will be asked to invent situations--realistic or far-fetched--in which people with very different jobs must cooperate.

To begin, write these four job titles on the board:

hotel manager
plumber
politician
newspaper reporter

Then read students the following example of an imaginary situation in which people with these four jobs might interact:

Several well-known politicians are meeting in Washington, D. C., to talk about public housing conditions. Sonya Doring, expert Washington newspaper reporter, is getting ready to report on the meeting. Harry Black, a famous politician from Arizona, has a reservation for a suite of rooms at the Golden Bowl Hotel in Washington. On the morning Mr. Black is due to arrive, Alice Dunne, the hotel manager, notices that the sink in Mr. Black's suite is leaking. Quickly she calls the trusty hotel plumber, Willie McCall, to fix the sink. Good ol' Willie stops the leak just as Mr. Black walks in. Mr. Black sees Willie at work and says, "Oh, yes! That reminds me..." Mr. Black then calls Sonya Doring and gives her an exclusive story about how he plans to make the plumbing in public housing projects better.

Discuss the situation to make sure the students understand what is happening. Then write the following three groups of four jobs on the board.

1.	2.	3.
cattle rancher	*librarian*	*lawyer*
veterinarian	*writer*	*policewoman*
telephone operator	*airline pilot*	*bus driver*
soil conservationist	*restaurant manager*	*teacher*

Read the job titles aloud and make sure students know what each job consists of. Then have students divide into their work groups. Tell them their task is to make up a situation, like the example they just heard, for each of these three groups. Their stories can be as realistic or as "far out" as they like--just so long as each story shows people with the four given jobs cooperating or depending on one another in their work. Each group of students should work together on its story, and one member of the group should w te the story down.

Allow about 25 minutes for students to make up their stories. When they have finished, invite groups to take turns reading their stories to the class. Encourage students to compare the different situations that have been made up for the same set of four people. If you wish, copies of the stories can be displayed in the classroom, perhaps with student-made illustrations.

Exercise 2. Making a Job List! Who Made It?

Remind students that it takes many different people doing many different jobs to make a manufactured product. Have them name some manufactured products in the room, or recall some of the ones you mentioned in the introductory discussion at the beginning of the Activity. Write the names of some of these products on the board and discuss in detail the jobs involved in manufacturing one or two of them. You will probably wish to write the list of jobs on the board also. Have students supply suggestions for the list whenever possible but be prepared to supply many of them yourself.

A sample list for *paper* might look like this:

OCCUPATION	WHAT THEY DID
Forester	planted, raised, protected trees
Lumberjack	cut trees down
Factory Worker	made trees into paper
Salesperson	brought paper from factory, sold it to school

Point out that a list like this is much simplified; it could actually be a great deal longer than it is. Also, in addition to people who make and market the product itself, there are many others who contribute indirectly to its production. For instance:

WHO MADE PAPER?

OCCUPATION	WHAT THEY DID
Forest Fire Fighter	protected trees from fire
Environmentalists	protected trees from disease or careless cutting, analyzed soil, etc.
Park Ranger	watched over trees growing in national parks
Advertiser	advertised paper to possible buyers

Tell students that in this exercise, they are to prepare lists of occupations for any three products they choose (one of which must be found in the classroom, the other two of which may be found anywhere). They will then take turns reading one of their lists to their workgroups, and the rest of the group will try to guess the name of the product from the occupations on the list.

An example of such a list is given on page 51 of this Guide. If possible, pass out duplicated copies of this list to students. Otherwise, write the sample list on the board. Remind students NOT to use the name of their product (e.g., eraser, shirt, clock) when identifying the occupations involved in its production or in the "what they did" part of their lists. Also, they should not discuss their lists with other students. Suggest that they turn to the Career Cluster job chart they studied in Exercise 3 of the last Activity (pp. 35-42 in this Guide) for additional job ideas if they get stuck; they can look at the occupations listed and ask themselves, "Could any of these people be involved in making the product I'm doing a list for?"

Allow students, working individually, 15 or 20 minutes to prepare their lists. Circulate through the room as they work, giving hints if students are "stuck" or if they seem to be forgetting any key primary or secondary occupations connected with their products.

Now divide the students into groups. Each student should have his or her "Who Made It?" lists. Tell students to pick one of their three lists and take turns reading that list to their group. They are not to name the product for which the list is made; instead, the group should try to guess the product from information in the list. Guessing may begin as soon as anyone has any ideas. After the group has guessed, the list-reader may name the product.

Allow fifteen or twenty minutes for this part of the exercise. Conclude with a brief review of the central concept: People doing different jobs must work together and depend on each other to produce things.

EXERCISE 2: MAKING A JOB LIST:

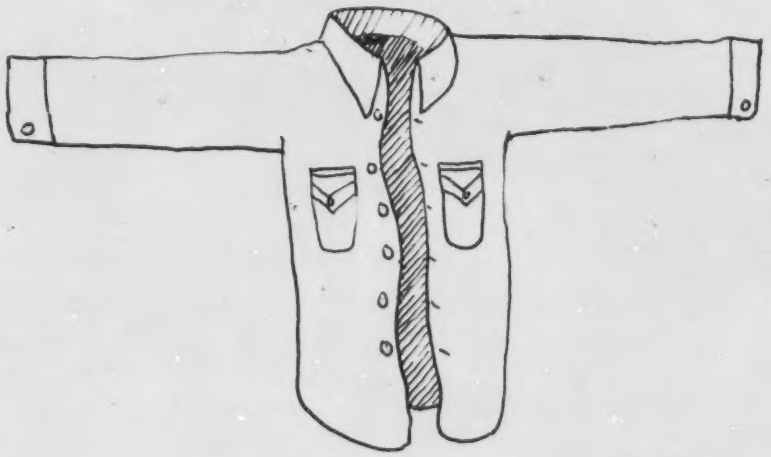
WHO MADE IT?

SAMPLE LIST

PRODUCT: A Cotton Shirt

OCCUPATION	WHAT THEY DID
farmer	planted and raised cotton
factory worker	made raw cotton into cloth
dyer	dyed (colored) material
pattern maker	made pattern
cutter-sewer	cut material according to pattern and put pieces together
advertiser	advertised the product
department store manager	bought product
salesperson	sold product to me

NOTE: This list could be longer. Can you think of more people to add to it?



Exercise 3. Assigning Jobs: Getting Ready to Fly

Tell students that now they are going to have a chance to learn first-hand about how people doing different jobs must work together and depend on one another in order to make a product. Each workgroup is going to design, make, and market a kite--an imaginary one, or, if at all possible, a real one. Each student in the group will have a different job to do in this Activity--but all must work together or cooperate, or their kite probably won't fly!

These exercises can be done as a simulation if money or kite materials are not available, but the experience will be much more meaningful to students if they can build real kites. Neither the kites themselves nor the materials used to build them need be elaborate, time-consuming, or expensive. A list of the materials you will need is given at the beginning of this Activity.

If it does seem possible for students to build real kites, you might want to boy an inexpensive kite, or have a student bring a kite to class, so that everyone can examine it and see how it is made. You should also try to locate books on kite building and flying at your local library. Three recommended ones are:

Chinese Kites: How to Make and Fly Them
by David F. Jue, Charles E. Tuttle Company, Rutland, Vermont and Tokyo, Japan, 1972

Kites: a practical guide to kite making and flying
by H. Waller Fowler, Jr., The Ronald Press Co., New York, 1953

Flying Kites, In Fun, Art, and War, by James Wagenvoord, The MacMillan Co., New York, 1968

Introduce the kite-building exercises by asking students if any of them has ever flown a kite. If so, ask when; where; what it felt like, etc. Point out that people have been making and flying kites for a long, long time. You might ask students how long they think people have been flying kites and, if information permits, briefly discuss the history of kite-making with them. (People are said to have been flying kites for over 3,000 years. The Chinese are especially fond of this activity.)

Next, ask if students have ever thought about how a kite is make. If they have any ideas about how this is done, discuss them. Then explain that to begin with, a kite must be designed in a particular way or it won't fly. Like airplanes and other things that fly, kites must be properly "balanced." Ask if students can think of any other things that fly that are balanced. Tell them they will have a chance to learn how to design and balance a kite in the next exercise.

Go on to point out that, once they have a kite design that will work, they will need to decide what materials they will need for their kites. Wood, paper or cloth, and string should be on the list for sure. Ask where they might get these things.

After they have thought of a design and found the materials they need, they will be ready to go ahead and build the kite. If they were making the kite just for themselves or their friends, building would probably be the end of the job. After that they'd just find the nearest field, park or other open space and "go fly a kite."

Explain that in this Activity, though, they will go one more step. They will pretend they are part of a kite-making company and that they want to sell or market their kites to other people. Each group should think of a clever name for their company and a catchy phrase or slogan to advertise their kites so that other people will buy them.

Tell students that their first task in connection with making a kite will be to decide who is going to do what in their imaginary kite-making company. Have students divide into their workgroups, or assign them to groups of (as nearly as possible) five students each. Students should be grouped so as to promote maximum productivity.

Explain that there are five different kite-building jobs they can choose from:

1. designer
2. materials finder (decides what materials are needed and finds them)
3. kite builder
4. advertiser (decides on a name for the company and a catchy slogan for the kite)
5. marketer (decides how much the kite should cost and to whom the "company" will sell it)

You will probably want to write these job titles on the board.

If some groups have more than five people, tell them they might want to choose one person (a President) to watch over or supervise the work of the whole "company." They can also assign more than one person to a job (for instance, building the kite). On the other hand, if some groups have less than five people, they might have to "double up" on some jobs. (For example, the advertiser and the marketer might be the same person.)

Explain that when students are trying to decide who should do each job, they should begin by thinking about the special skills or talents each member of their group has that might suit that person for a particular job. For example, if someone in the group has artistic talent, that person would probably make a good designer. If someone likes to write, he or she might make a good advertiser. If someone in the group likes to build things, he or she would probably be the best choice for the job of builder.

However, remind them that they won't always be lucky enough to have people who have just the right skills and talents for each job. If they can't hand out all the jobs according to talent, they can give the jobs to people who would like to try them, whether the people think they have any special skill or not. Or their group may think of some other way of handing out the jobs.

If several people want the same job, the group will have to work together to decide what to do about this. They might try to talk some people into switching to other jobs. They might ask some people to do more than one job. Or they might decide to all work together each step of the way.

Give students in the groups about ten minutes to decide who will do which job. Arbitrate disputes if necessary.

Exercise 4. Cooperating to Make A Product: Go Fly a Kite!

This is the actual kite-building exercise. To begin, pass out to students the instructions appropriate for their particular jobs (or meet with students, grouped according to job, read their instructions to them and give them a chance to copy them down). Instructions for DESIGNERS will be found on pp. 56-58 of this Guide; for MATERIALS FINDERS, pp. 59-60 ; for BUILDERS, pp. 61-62 ; for ADVERTISERS, pp. 63-64 ; and for MARKETERS, p. 65.

After students have read or heard their instructions, discuss the instructions to make sure students understand them before actually beginning to work. You might want to address the following review questions to students with particular jobs.

DESIGNERS

1. What are some important things to remember in designing a kite? *(balance, width being 3/4 of length, shape)*
2. What sorts of decorations might go on the body of the kite? *(company name or slogan, Indian symbol etc.)*

MATERIALS FINDERS

1. What materials will you need for building a kite? *(lightweight strips of wood, kite string, tissue paper etc., glue, tail materials)*
2. What two things must you find out about these materials? *(where they can be found, how much they will costs)*

BUILDERS

1. What are the steps in the building process? *(tie struts; attach string around tips of struts; cover form with paper etc.; glue edges of paper; attach tail; fasten bridle; roll play-out string onto spool; attach free end of string to bridle)*
2. What are the struts? *(the wooden cross-pieces of the kite)*
3. What is the bridle? *(the string which connects the struts to the play-out string)*

ADVERTISER

1. What things should you have on your advertising poster? *(company name, slogan, picture to appeal to chosen audience)*

MARKETER

1. What two things must you decide? *(to whom you will sell the kite; how much you should charge)*
2. What three things will help determine how much you will charge for your kite? *(cost of materials, salary, profit)*
3. What is a profit? *(the extra money you make, over what your materials and salary costs are)*

Remind the students of the four basic steps in the kite-making project, and make sure they understand each step. You should probably list these steps on the board. The steps are:

1. Design the kite.
2. Find the materials you need.
3. Build the kite.
4. Market the kite.

Finally, when students have a good understanding of how to approach and execute their tasks, have them go ahead and plan and, if possible, actually build--their kites. You should probably allow at least one class period for this. Help students when necessary.

If at all possible, display the kite designs and posters, and the real kites, if they have been made, in the classroom when students are finished. If real kites have been made and the season is appropriate, you might even wish to have a kite-flying party after school one day.

Note on kite-flying: If the kite string is fastened too high on the bridle, the kite won't climb steadily, maybe not at all. If the kite string is fastened too low, the kite will jump around or dive in circles. If you or students have trouble getting a kite to stay in the air, experiment with changing the attachment of the kite line to the bridle.

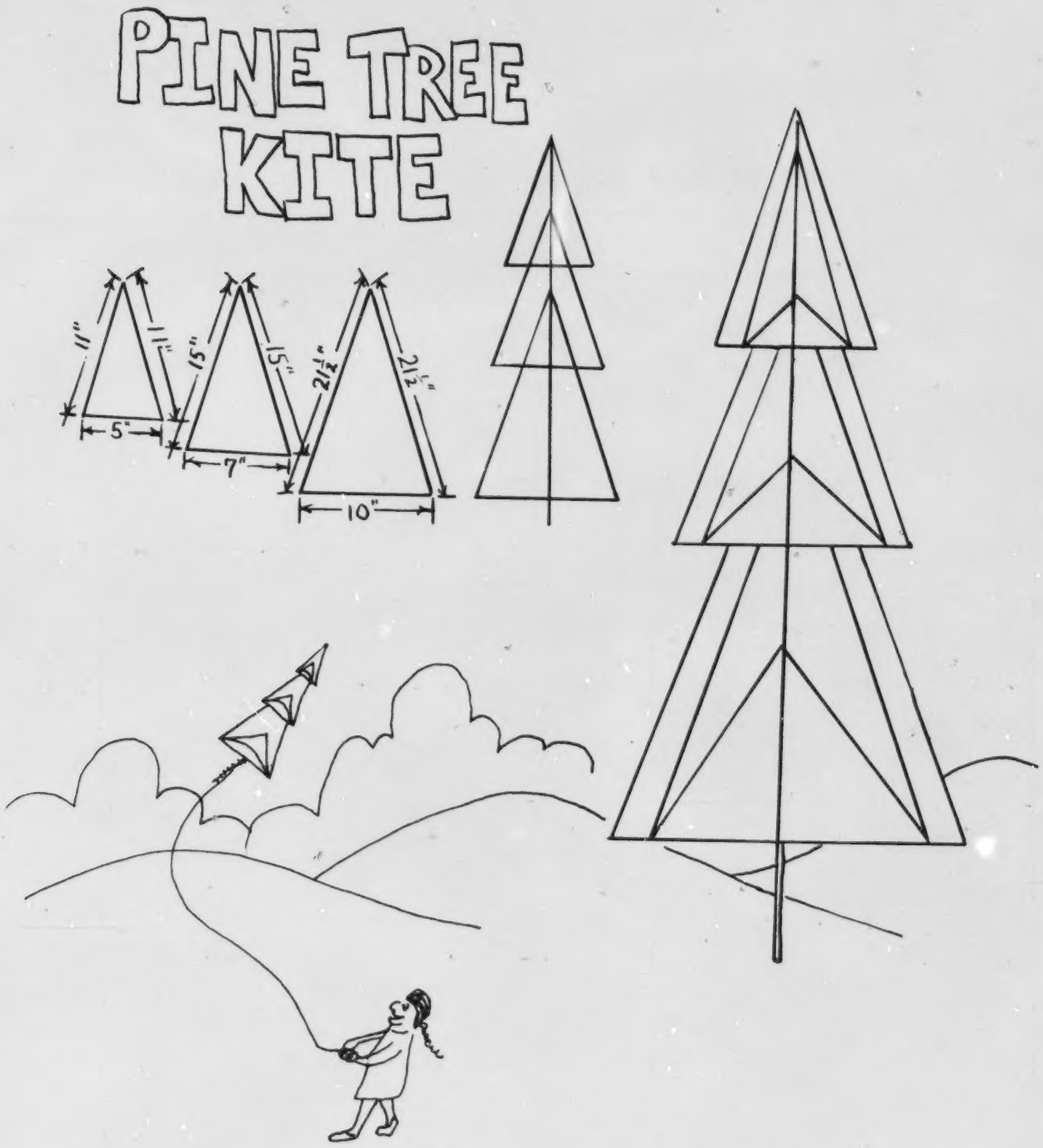
DESIGNER

If a kite is to fly right, the width of the kite must be equal to 3/4ths of its length. For example, if your kite is 12 inches *long*, it must be nine inches *wide* at the widest part. Look at the chart below. See if you can figure out the rest of the widths.

WIDTH	6		?		?		?		?		?	INCHES
LENGTH	8		16		24		32		48		64	INCHES

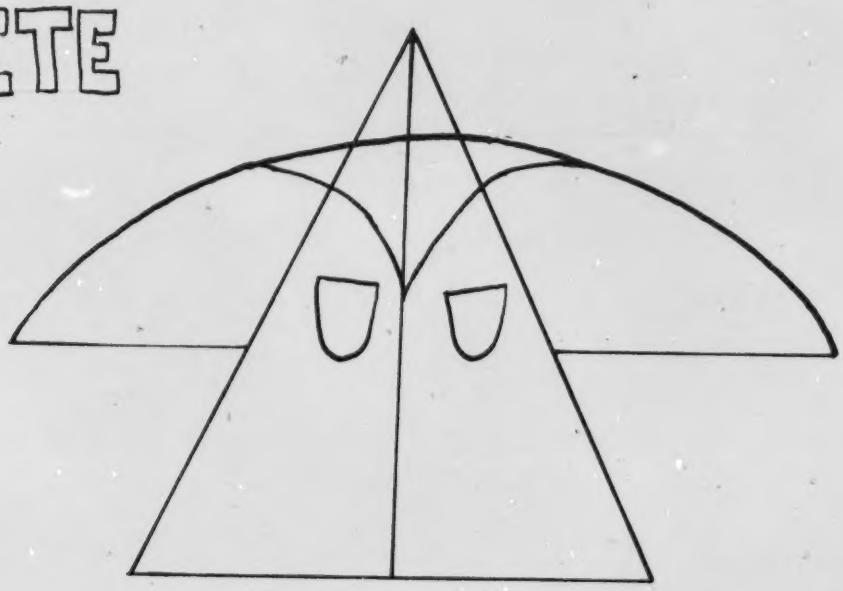
After you understand the kite measurements, you will have to decide on a shape. You may wish to use the most common (a diamond), shape or you may want to do something a little different. For instance, the Chinese often built kites in the shape of fish, because they believed that fish were a symbol of good luck. The next two pages show two other popular kite designs.

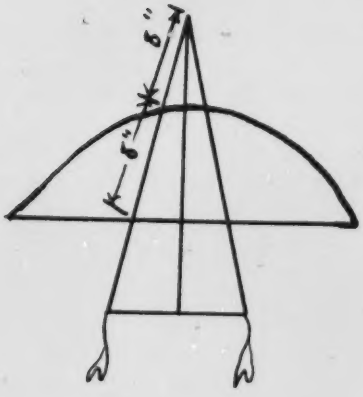
You will probably want to decide on some decoration for your kite, too. You might want to paint your company's name or slogan on the kite (work with the advertiser on this). Or maybe you would like to use an Indian design. (A symbol for air or wind might be nice.) Ask for ideas from the members of your group. Then work up two or three different designs and ask the group to decide which one they like best.


PINE TREE
KITE
11"
11"
5"
15"
15"
7"
21½"
21½"
10"

DESIGNER (continued)

RED TAIL HAWK KITE





MATERIALS FINDER

The main things you will need for a kite are the following:

thin, lightweight strips of wood (spruce, birch, or thin bamboo cane)

kite string or heavy white thread

model airplane tissue, tracing paper, or light cloth for the body

white glue (or airplane cement, which dries more quickly)

tail materials (scraps or tissue) and string

Your job is to find out where you can get each of these materials. Ask the members of your group first. If you need anything the group can't give, look in the telephone directory and find the names of places you think might have the materials you need. Call them to find out. Don't forget to ask how much the materials will cost.

As you find out where to get materials and how much they will cost, write down what you learn. When you are finished, you should have a list something like the one on the next page.

MATERIALS FINDER (continued)

MATERIALS NEEDED	WHERE TO GET THEM	HOW MUCH THEY COST
thin strips of wood	Acme Lumber	.50
kite string	Mary	Free
tracing paper	the dime store	.69
glue	me	Free
tail materials (cloth)	Jim	Free
TOTAL		$1.19

When your list is finished, show it to the group. Ask if everyone is willing to chip in the money to buy the materials. Also, ask if anyone has any suggestions for ways to get materials more easily or cheaply.

If your group gives you the "okay," go ahead and collect or buy the materials you need.

BUILDER

Before you start, you may wish to study a ready-made kite. If you can get a store-bought kite, you might even want to take it apart and put it back together in order to understand better how a kite is made.

If you don't have a ready-made kite to study, or you need some extra help, study the picture and follow the instructions on the next page.

BUILDER (Continued)

Steps in building a kite:

tie the struts (see picture below)

attach string around tips of struts in shape designer has chosen

cover form with paper, turning back the edges over the string outline

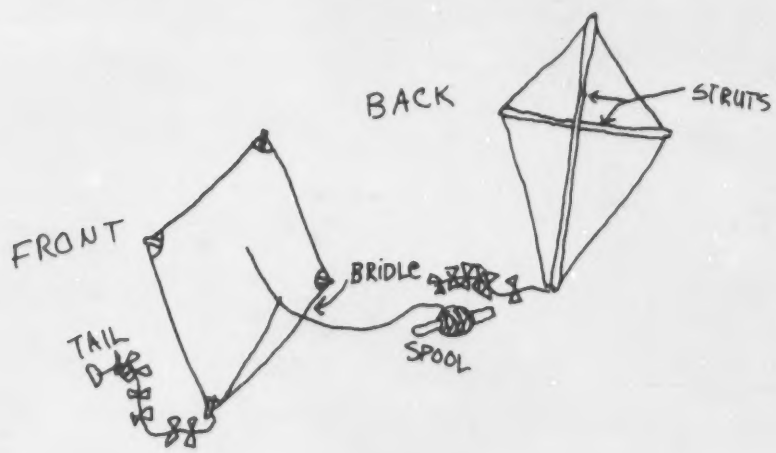
glue the edges of the paper

attach tail if needed

fasten the string bridle or harness

roll your play-out string onto a spool or piece of wood

attach free end of the string to the bridle



ADVERTISER

Your first job is to think up a clever name and a catchy slogan for the kite-building company. You should ask for group suggestions on both of these, as well as thinking up ideas of your own. You should write down a number of suggestions and have the group choose the one they like best.

Your company name could be something like Kite Krazy, High Flyers, or Up Up and Away. Your slogan should probably go with the company name. The slogan might be something like "Kites for Kids of All Ages" or "You Never Had It So High."

After your group has chosen a company name and slogan, write these down. Then think up a design for a poster which will use your company slogan to "sell" your kite. (There is an example on the next page.)

Draw your advertising poster on a piece of construction paper. Color it so it is bright and exciting. If drawing isn't your favorite thing, you may want to work with the Designer or some other artistic member of your group when you do the poster.

ADVERTISER (Continued)

Here is what an advertising poster for your kite company might look like.

MARKETER

You should decide on the answers to the following questions:

To whom will you sell your kite? (Other students in school? Friends? Relatives? People in your town?)

How much will you charge? Work with the Materials Finder to figure out how much it cost you to put the kite together. If you want to make a little profit, charge a bit more than what the kite cost you. Also, if yours was a real company, you would have to pay the people who work there. So, just for the fun of it, figure a small salary (5¢ an hour, 15¢ an hour, whatever) for each member of your group. Ask each person to tell you how many hours he or she worked. Then figure the salary total. Your figuring may look something like that on the next page.

EMPLOYEE	SALARY	NUMBER OF HOURS	TOTAL
DESIGNER	15¢/hour	2 hours	.30
MATERIAL FINDER	5¢/hour	1 hour	.05
BUILDER	10¢/hour	3 hours	.30
ADVERTISER	15¢/hour	2 hours	.30
MARKETER	5¢/hour	4 hours	.20
TOTAL		12 hours	$1.15

Total cost of building materials	$1.19
Total salaries	+ $1.15
Total cost of kite	$2.34
Profit per kite	+ .16
Our price for each kite	$2.50

Exercise 5. Review: How Well Did We Work Together

When students have finished designing, making, and marketing their real or imaginary kites, pass out copies of the evaluation sheets on pp. 67-69 of this Guide; or, if necessary, put the evaluation questions on the board or read them to students. If students have the sheets, give them a few minutes to read the material, and answer any questions they have. Tell them they are to work independently in this exercise. Allow about fifteen minutes for answering the questions. Then discuss student responses with the entire class.

Additional Activities

If students enjoyed making up the "crazy situations" in the first exercise, you may want to have the workgroups generate additional lists of four jobs (perhaps using some of the career-cluster materials in the previous Activity for ideas) and exchange these lists with other workgroups who will then devise situations for the lists.

Students can also do additional product lists, as in Exercise 2. They might take the lists they have and determine the cluster of each occupation they have listed. Or, they might each choose a product that particularly interests them and do additional research to find out just what jobs really are involved in making it.

Students might be interested in doing a report or display on the history of kite-flying, if appropriate information is available. If making real kites has not been possible for the whole class, this might be given as an extra assignment for those who can manage it.

If students enjoyed the kite-making exercises, their "companies" might branch out and make some other simple product. Your library should have books suggesting simple craft projects involving paper, clay, or jewelry which would be appropriate; or students may have their own ideas.

Additional Resources

An excellent "how-to-do-it" guide to Indian crafts, games, and customs which would provide a wealth of supplemental ideas for student-made products is:

The American Indian Craft Book, by Marz Nono Minor,
Popular Library, New York, 1972.

EXERCISE 5. REVIEW: HOW WELL DID WE WORK TOGETHER?

Hopefully, your group learned something in this Activity besides how to make a kite. You should have seen that designing, building and marketing a product takes cooperative work from a number of different people doing different jobs. A lot more than five or six people must work together to make most things you buy at the store.

When you have finished working on your kite and sharing your work with the class, read over the questions on this page and the next. Then answer the questions on a separate piece of paper. Each person should work by himself or herself to answer the questions. Then, when everyone has done that, talk over the answers in class.

1. Did all members of your group state their ideas and feelings openly and honestly?
2. Did group members listen and pay attention to what each person had to say?
3. Did the group work well together? If one person had a question or a problem, did that person ask for help from the rest of the group? Did the rest of the group help him or her?
4. What did you learn from this Activity?
   a. What did you learn about making something?
   b. What did you learn about the people in your group?
   c. What did you learn about yourself?
5. If you did the kite-making part of this Activity again, is there something you would do differently? If so, what?

6. Fill out the chart on the next page. First, rate *yourself*. Then, rate your *group*. In both cases, use this rating scale:

   1 = excellent, super

   2 = very good, better than average

   3 = o.k., average

   4 = not too well, needs more work

   5 = lousy, needs lots of work

   For each item, write in the number you choose. (For example, if you think your cooperation in your group was better than average, write 2 after item A in the chart where you are rating yourself.)

	ME	MY GROUP
A. COOPERATION (how well did you work with others)		
B. ENTHUSIASM (how interested in the work were you?)		
C. CREATIVITY (How many new ideas did you have?)		
D. PRODUCTIVITY (How hard did you work?)		
E. RESPONSIBILITY (Did you do what you were supposed to do?)		

Activity 3

VERY INTERESTING!

GOAL: To help students understand how personal interests can affect career choice

OBJECTIVE: Given eight interest areas, students will identify their personal interests and match interests with occupations.

WHAT STUDENTS WILL BE ASKED TO DO

- Identify personal interests and say how the interests were acquired
- Find out about interests of their classmates through interviews
- Read about eight general interest areas and several occupations connected with each
- Put up an "Interest Board" showing pictures of occupations connected with different interests

MATERIALS YOU WILL NEED

For Exercise 4:

- colored pens or pencils (optional)
- old magazines, newspapers, etc.
- a large (bulletin board-type) display area
- scissors

PREPARING FOR CLASS

If you have access to duplicating facilities, duplicate one copy per student of the reading, "Eight Interest Areas" (pp. 74-76 of this Guide).

PROCEDURE

The exercises in this Activity will ask students to examine their individual interests and begin to assess them in terms of potential career paths. They will learn about eight general "interest" categories.

Since the final exercise ("Interest Board") requires that students put up a bulletin board which illustrates personal interests, it is recommended that you encourage students to begin collecting and bringing in old magazines, newspapers, snapshots, etc. as soon as possible. If such material cannot be obtained, this exercise may be omitted.

Exercise 1. Naming Your Interests: Very Interesting

In this exercise, students are asked to make a list of five of their current interests and tell who or what initiated each.

Begin by explaining that interests are things that people like to do. Different people have different interests. Some people are interested in sports. Others would rather curl up somewhere with a good book. Some people really enjoy fixing things like clocks and engines. Others enjoy getting up on a stage and acting something out in front of an audience. Often they get these interests from someone they admire; for instance, a person might gain an interest in learning about the cultures and life styles of different tribes because that person's grandfather used to tell him or her stories about different tribes. People can get new interests from things they read or see on TV, too.

Tell students that their job in this exercise is to list five of their greatest interests (things they like to do most). After each interest, they should write a sentence or two telling how they first became interested in that thing. Allow them about ten minutes to do this.

Afterwards, discuss briefly what they have written. It is recommended that you write some of the interests and how they began on the blackboard, or have students read them to the class. This information will be useful to students in the next exercise.

Exercise 2. Talking to a Friend About His or Her Interests: Interest Interviews

In this exercise, students are asked to interview someone in the class who has an interest which they would like to know more about. How students select their interviewees is left to your discretion. You may wish to post interest charts in your classroom for student perusal. You may have students share their interests in groups of five or six students. In any case, insure that all students participate in this exercise as both interviewers and interviewees.

Tell students to bring pencil and paper to their interviews so they can make notes on what the other person tells them. Recommend that the interviewers ask the interviewees at least the following questions (you may wish to write the questions on the board):

For instance, if the interest was Indian dancing, one might ask--

1. How did you first become interested in Indian dancing?

2. Why do you enjoy it?

3. What have you learned from this interest?

4. Does it take any special skill or talent to do Indian dancing? If so, what skills or talents do you need? How can you learn them?

5. Do you dance alone or in a group? Could you teach me to dance with you, or go with me to a performance sometime?

Interviewers may be encouraged to ask interviewees other questions about their interests as well.

Allow students ten to fifteen minutes to conduct their interviews. Then instruct them to switch roles (interviewers become person being interviewed and vice versa). Allow them about the same amount of time to conduct the second interview.

When students have completed this part of the exercise, discuss some of their discoveries as a class. Ask them what they learned about the other person and his or her interests while they were interviewing. Ask them what they learned about themselves and their interests when they were being interviewed. You may wish to have them write up the interviews.

If students have enjoyed doing these interviews, encourage them to continue their interest surveys by interviewing parents, teachers, relatives, or people who have jobs which seem interesting to them. Have them keep this information together in a separate section of their notebooks.

Exercise 3. Reading: Eight Interest Areas

In this exercise, students will be asked to read about eight interest areas and some jobs connected with each. Before you distribute the reading, however, ask students if they can guess what interests have to do with jobs. After they have presented their ideas, explain that people usually try to choose jobs that let them do the things that interest them. People who enjoy working with numbers and solving mathematical problems, for example, would probably like a job as an accountant, a bookkeeper, or a bank teller.

Now, pass out copies of the reading (pp. 74-76 of this Guide) or read the material to students. Point out that the list does not try to name all the different kinds of interests people have. It just names a few very general kinds of interests. As students read, suggest that they try to think which of these interests they themselves have.

When students have finished reading or hearing the material, review it briefly with them. Make sure they understand the nature of each of the jobs named after the interest areas. Ask if they can think of any more jobs that might fit in any of the interest areas.

For review, if time allows, write a list of occupations on the blackboard. Ask students to match each job on the list with one or more of the general interest areas they have just read about. (A sample list, with interest areas given, is provided below; some of the occupations are taken from the text, others are new.)

OCCUPATION	POSSIBLE INTEREST AREAS
auto mechanic	working with machines
teacher	helping people
jewelry maker	creating things
accountant	working with numbers
zoo keeper	working with plants and animals
salesperson	helping other people; reading, writing, speaking
assembler	working with machines
park ranger	working with plants and animals, helping other people
orchestra conductor	making music
doctor	solving problems, helping other people

EXERCISE 3. READING: EIGHT INTEREST AREAS

1. Working with Plants and Animals

You like being outside. You would enjoy a job outdoors working with animals, plants, trees, or sea life. Jobs which involve working with plants and animals include: *forest ranger, environmentalist, farmer, park ranger, and rancher.*

2. Working with Machines

You like to work with machines and tools. You enjoy taking things apart, studying them, fixing them, and putting them back together. Jobs which involve working with machines include: *automobile mechanic, watch repair person, machinist, and engineer.*

3. Working with Numbers

You enjoy working with numbers. You like figuring out mathematical problems. You work carefully and get the answers right. Jobs which involve working with numbers include: *bookkeeper, accountant, bank teller, and statistician.*

4. Solving Problems

You like to find out new facts and solve problems. You have a strong interest in science and mathematics. Jobs which involve an interest in science include: *doctor, scientist, researcher, science teacher, and chemist.*

5. Creating Things

You like to be creative. You enjoy making things with your hands. You have a good sense of color and design. Jobs which involve artistic interests include: *painter, sculptor, jewelry maker, interior decorator.*

6. Making Music

You have a good sense of musical tone and pitch. You enjoy going to concerts or other musical performances, or you sing or play an instrument yourself. Jobs which involve a musical interest include: *singer, music teacher, musician, radio disc jockey, and record salesperson.*

7. Helping Other People

You enjoy helping other people. People know they can count on you and trust you. You are easy to talk to, too. Jobs which involve helping other people include: *teacher, nurse, counselor, minister, social worker.*

8. Reading, Writing, and Speaking

You like to read and write. You are interested in language and enjoy communicating your ideas to others. Jobs which would involve reading and writing include: *writer, newspaper reporter, librarian, teacher, and politician.*

Exercise 4. Making an Interest Board

This exercise asks students to bring in pictures (magazine, newspaper, photographs, original drawings, etc.) which illustrate their interests, and to assemble them on a bulletin board arranged according to the eight interests areas they learned about in the last exercise. The pictures may show the students themselves doing the activities which interest them, or they may show people doing jobs which relate to a particular interest area. The jobs or activities should be clearly labelled.

Students can collect pictures for the interest board in any of the following ways:

1. Look through newspapers or magazines at home and cut out pictures that show things they are interested in. (Tell them to ask their parents' permission before cutting anything.)

2. Bring in photographs which show themselves doing something they are interested in.

3. Draw their own interest pictures. (They shouldn't worry if they're not artists. Not many people are!)

4. Bring old magazines to school to share with others and have an "Interest Board Cut-In."

You may think of other sources of pictures for the Interest Board, too. Ask students if they have any suggestions.

It would be helpful, but is certainly not mandatory, for a variety of printed media to be accessible to students in the classroom for work on the Interest Board. Encourage students to bring in magazines, etc. from home (after securing permission from their parents, of course). Perhaps materials of this kind are available in your school or community; for instance, at a recycling center.

Encourage students to continue searching for and adding pictures throughout the duration of this unit. Also, suggest periodically that they study the Interest Board to identify new pictures and guess who put them up.

Activity 4

AP-STACLE COURSES

(THAT'S-APTITUDE AND OBSTACLE!)

GOAL: To help students understand what aptitudes are and how they can affect career choice

OBJECTIVE: Given five types of aptitudes, students will identify personal aptitudes and will employ these aptitudes in a group game exercise.

WHAT STUDENTS WILL BE ASKED TO DO

- Discuss what an aptitude is and how it differs from an interest
- Study five general types of aptitudes
- In a small group, devise and perform in an "ap-stacle course
- Evaluate group interaction in the ap-stacle course"

PREPARING FOR CLASS

If you have access to duplicating facilities, duplicate one copy per student of the "Example of an Ap-stacle Course" sheet (p. 81 in this Guide).

PROCEDURE

Exercise 1. Lecture/Discussion: What Is An Aptitude?

Begin by asking some students to say what their favorite subject in school is. Then ask them why it is their favorite subject. Is it because they had a terrific teacher in that subject once? Is it because the subject interests them? Or is it because the subject is easy for them and they do well in it?

Point out that people often like a certain subject because they have an APTITUDE for it. An APTITUDE is *the ability to learn something.* People learn some things more easily and quickly than they learn others. The things they learn easily are the ones they have an aptitude for. For instance, some people can zip through their math homework in half the time it takes others, get all the answers right, and ask for more. They have an aptitude for working with numbers. Other people are coordinated and graceful and enjoy a number of sports; they have an aptitude for athletics. All people have aptitudes for one thing or another, but aptitudes are different in different people.

Students may be wondering about the difference between an INTEREST and an APTITUDE. The two do, of course, often go together. The main difference is that a person can be interested in something without necessarily being good at it. Once can still enjoy or be interested in singing, even if the result makes all the people around one hold their ears.

Another difference is that new interests can (and should) be acquired throughout life, but aptitudes usually seem to be "natural"--present almost from birth. They may even be inherited, although environment can certainly affect the degree to which they are developed.

Be sure students understand that having an aptitude for something does not make one an automatic expert. A person with an aptitude for music must still practice daily if he or she wishes to become a great or even a good musician. A person with an aptitude for science must still study for years before embarking on an independent scientific career. But people who achieve major success in some kind of work do usually demonstrate an aptitude for that kind of work, or ability to learn it easily, very early in their lives.

There are many different kinds of aptitudes. Explain to students that you are now going to tell them the names of five of these. Then write the following on the board, or read it to students:

1. WORD APTITUDE: the ability to understand and communicate words and ideas.

2. NUMBER APTITUDE: the ability to solve arithmetic problems.

3. BODY COORDINATION: the ability to move parts of your body smoothly in relation to other parts.

4. EYE-HAND COORDINATION: the ability to move your hands in response to what you see.

5. COLOR APTITUDE: the ability to see and compare differences in color.

Discuss this information with students and make sure they understand what each aptitude is. Ask them to begin thinking about which of these aptitudes they have.

Exercise 2. Playing a Game: The Ap-stacle Course

Begin by explaining that "ap-stacle" is a nonsense word that combines the two words "aptitude" and "obstacle." Ask students if they know what the word "obstacle" means, and explain it if they don't. Ask if they know what an "obstacle course" is, and explain this term too if necessary. Tell them that an "ap-stacle course" is a series of exercises that test various aptitudes. It is a kind of game which they will play in teams. Playing the game may help them learn what aptitudes they have.

Ask students to convene in five-member small groups. Then pair the groups off and assign each pair to a specific area of the classroom. (For this exercise, you will have to "section off" your classroom into as many areas as there are pairs of groups.) Then pass out the "Sample Ap-stacle Course" sheet (p. 81 of this Guide) and give students a few minutes to study it, or read the material to them. Make sure students understand what kind of exercises fit into each of the five categories.

Allow groups about 20 minutes to invent one ap-stacle per aptitude for their own "Ap-stacle Course." Have one student in each group write down the "Ap-stacles" in order, as on the sample sheet. When the groups are ready, signal one group in each pair to set up its ap-stacle course with one group member assigned to each check point. Since it is unlikely that the groups will divide into equal pairs of exactly five members each, instruct groups to assign one person to more than one "ap-stacle check point" (or vice versa) if necessary.

When their courses are properly set up and monitored, signal them to begin by starting one person from the other group at the "Word" check point. When this student has successfully completed the "Word" task, he or she moves on to the "Number" check point and a second student begins at the "Word" check point. This goes on until all students from the group have completed all the "ap-stacles." The student "in charge" of each check point decides when each performing student has completed the task successfully and may go on to the next point. (However, decreeing a five-minute limit per task may be wise.)

When one group is finished, allow the other a few minutes to set up and monitor their ap-stacle course. Then have students in the first group proceed in the manner described above. You may wish to have each group "time" the other's progress and compare the times at the end. (Correct for extra students in the group by determining the average course time per student and subtracting units accordingly; for instance, if one group had six students and the other had five, and the group with six took a total of 18 minutes to to through the ap-stacle course, you would subtract three minutes from the six-student group's time. You will probably have to help students with the math here.)

SAMPLE AP-STACLE COURSE

APTITUDES	ACTIVITIES
1. Word	Say this tongue twister as fast as you can, ten times: "Susie sells sea shells by the sea shore." Or make a one minute speach on any subject you wish. Or finish this story in one minute: Once upon a time, in a dark and dreary forest, lived a very mean and ferocious dragon named Madeline. One ugly day in May, she awoke and found....
2. Number	Do any one of the following three problems. 34 62 97 23 728 x31 35 $\overline{)315}$
3. Body Coordination	Walk a straight line. Or touch your toes five times. Or do five push-ups.
4. Eye - Hand Coordination	Thread a needle. Or string twenty beads. Or trace a figure.
5. Color Aptitude	Arrange different shades of a color from lightest to darkest. Or distinguish between dark blue, dark green and black. Or name three colors that go well together.

Exercise 3. Review: What Did You Learn?

When all students have completed the "Ap-stacle Course" game, instruct them to answer the questions given below. Write the questions on the board, or read them to students, and give them time to respond.

1. Which of the five "aptitudes" seemed the easiest for you? Which seemed the hardest?

2. Whose "Ap-stacle Course" (yours or the other group's) seemed toughest to get through? Why?

3. What do you think aptitudes have to do with jobs? Why might people be likely to choose jobs which they have aptitudes for?

Discuss the questions and responses with students, as well as the kinds of experiences students had during the "Ap-stacle Courses." In talking about the questions, pay particular attention to question three. Point out that most people would prefer to work at something that is basically easy for them, so that they can devote most of their energy to doing it really well, rather than work at something that is hard for them so that they must make an all-out effort simply to turn in a "passable" piece of work.

Activity 5 VALUES

GOAL: To help students understand how values can affect career choice

OBJECTIVE: Students will identify their personal values and will match three factors (interests, aptitudes, values) with careers.

WHAT STUDENTS WILL BE ASKED TO DO

- Discuss what a "value" is and what kinds of things people value
- Answer and discuss ten value questions
- Read about seven common values
- Match values, interests, and aptitudes with careers
- Review key concepts covered so far in this unit

PREPARING FOR CLASS

If you have access to duplicating facilities, duplicate one copy per student of each of the following:

Exercise 1: Value Questions (pp. 86-87 in this Guide)
Exercise 2: Seven Common Values (pp. 89-90 in this Guide)
Exercise 3: Reading: Review (p. 94 in this Guide)

Duplicate one copy per group of Exercise 3: Matching Interests, Aptitudes and Values with Careers (p. 92 in this Guide).

PROCEDURE

Exercise 1. Answering Value Questions: Values--What Are They?

Begin by asking students several questions which concern values, such as:

Would you rather live in the city or the country?

What do you think is the biggest problem the United States is facing today?

What is one of the most important things in your life?

After students have given some responses, ask they why they chose those answers. For instance, an answer to the first question, "Would you rather live in the city or the country?" may prompt several different types of "probing" questions such as "What do you like (or dislike) about the city (or country)?" or "What does your choice say about what you VALUE?"

Point out to students that how they answer questions like these has a lot to do with their VALUES. A person's VALUES are *ideas, thoughts, or actions which he or she thinks are important.* Values are difficult to define because one can't see or touch them. Yet almost every time a person makes a decision or solves a problem, his or her values play an important part in the process.

Give some examples of values which affect decisions. For instance, you might say, "Suppose you are trying to decide whether to tell a good friend about something she has done that you don't think was fair. You like her very much and don't want to hurt her. But you value honesty and openness in your relationships with other people, so you decide to talk to her." Or, "Suppose a group of your friends are planning to do something you don't feel comfortable doing. You decide not to go along with the crowd. This shows that you value independence and your own sense of what is right more than you value being liked all the time." Name other possible situations and decisions and ask what they show about values; or ask students for examples of times when they were influenced by their values in making a decision.

Point out that different people value different things, just as they are interested in different things and have aptitudes for different things. One person's values are not any better or worse than another person's; they are just different. People choose values they are comfortable with. They choose values that seem right for them.

Ask students where they think people get values from; that is, how they come to consider some things or ideas more important than others. Guide them to see that values come from people they know and respect--family, friends, teachers, tribal leaders, and so on. Values can come from "things," too--books, newspapers, movies, TV. Have students discuss which of these influences play the greatest part in shaping their own values.

Explain that, even though people's values come to them mainly from outside, each person still creates his or her own combination of values, or value system, which is not like anyone else's.

Tell students that they are now going to have a chance to start finding out about their own value systems. Pass out copies of the ten Value Questions (pp. 86-87 in this Guide), or write the questions on the board or read them to students. Instruct the students to answer the questions, and give them about ten minutes to do this.

After students have responded to the questions, lead them in a discussion which will begin with how they answered each of the questions and proceed with student attempts to verbalize their rationale for each response. Emphasize two things: first, that different people have different values and it is, therefore, quite reasonable and predictable that student responses should vary on each question; and second, that each response makes some sort of statement about what students think is important. Encourage them to intuit the VALUES which underlie each of the questions.

EXERCISE 1. ANSWERING

VALUE QUESTIONS

Directions: *For each question below, circle the answer which best describes what you value.*

1. Where would you rather live?

   In the city

   On a reservation

   On a farm

2. If someone gave you $100, what would you do with it?

   Save it

   Spend it right away

   Use it to help someone else

3. If you were President, which would interest you the most?

   Putting people on the moon

   Helping poor people

   Keeping America safe from its enemies

4. Which would you rather give someone?

   Something you made

   Something you bought in a store

   Some money

VALUE QUESTIONS

5. Which would you rather do?

   Watch television

   Play a game outside

   Read a good book

6. Which of these jobs would you like the most?

   School teacher

   Carpenter

   Artist

7. Which of these world problems seems the worst to you?

   Overpopulation (too many people)

   Air and water pollution

   War

8. Which would you rather do?

   Fix something that is broken

   Help someone solve a problem

   Make something useful

When you have finished answering these questions, talk about your answers with the rest of the class. Remember that different people have different values. Don't be surprised if others in the class chose answers that are different from yours.

Exercise 2. Reading: Seven Common Values

In this exercise, students are asked to read descriptions of seven common values. Pass out the descriptions (pp. 89-90 of this Guide), or write the names of the values on the board and read the descriptions to students. Clear up any ambiguities and/or further define any of the values as needed. Make sure students understand that, as with the lists of interests and aptitudes, this list of values does not begin to enumerate all values. Encourage them to name other values that are important to them. Encourage them throughout, too, to relate the concept of values to jobs. Ask them if certain types of jobs can be associated with certain types of values, and vice versa.

After you have finished discussing the seven common values, instruct students to choose the three values on the list which are most important to them and write these down. Also ask them to try to explain, in a sentence or two, why these values are important to them. Give them five or ten minutes to do this. Then lead them in a brief discussion during which they can share these values they think are most important. (You may wish to keep a tally on the board to reflect the collective value consciousness of the class.) If this type of exercise is too abstract or philosophical for your students, substitute a brief writing exercise which asks them to think of and write about the last time they can remember doing or saying something that involved a particular value.

EXERCISE 2. READING: SEVEN COMMON VALUES

1. INDEPENDENCE

   You think it is important for people to have the freedom to "do their own thing." They should be able to do or say what they want to.

2. RESPECT FOR NATURE

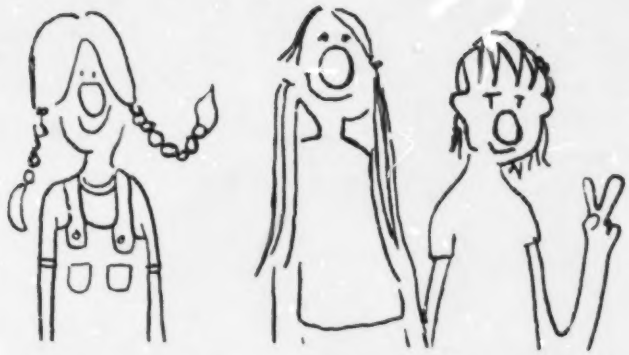
   You love the outdoors. You believe it is important for people to protect and preserve plants and animals.

3. HONESTY

   You think it is important that people are open with one another. You don't think people should lie or hold things back.

4. STATUS

   You think that some people (because of what they have done or what they have) are more important than other people. You believe that these people should have more rights than others.



5. POWER

You think that certain people or groups of people should be able to control others. These "leaders" should be able to tell others what to do and should be obeyed.

6. GENEROSITY

You think people should share what they have. They should take only what they need. People who have more than they need should give to people who don't have enough.

7. WISDOM

You think people should learn as much as they can from books, from teachers, from other people and from their own lives. You think education and knowledge are important.

8. EQUALITY

You believe that all people should have equal rights. You don't think that the color of a person's skin or the country he or she comes from should make any difference in the way he or she is treated.

Exercise 3. Matching Interests, Aptitudes, and Values with Careers

In this exercise, students are asked to study a list of five interest-aptitude-value combinations, as well as a list of jobs, and then to match each combination to the most likely career.

Begin by explaining that a person's interests, aptitudes, and values all play an important role in deciding what he or she wants to do for a living. Then give students an example of the sort of work they will be doing in the exercise. For instance, say, "Suppose you are interested in helping others, that you have an aptitude for working with words, and that you value wisdom. Which of the following careers would be best for you?--a high school English teacher, an accountant, or a carpenter?" After students have responded, point out that as a high school English teacher, a person would be able to help students work with words to gain wisdom. So, being a high school English teacher is the career that best matches the interest, aptitude, and value you named.

When students are familiar with what is required of them, have them convene in small groups. Pass out the sheet for Exercise 3 (p. 92 in this Guide), or put the material on the board, and then have students begin the matching exercise. Circulate among them as they work. When they have finished, initiate a discussion of their choices, encouraging all the groups to participate. Inquire about group rationale for each match.

After the discussion, reiterate the vital role of personal interests, aptitudes, and values in career choice.

Sample Answers:

1. (A) farmer; or possibly (F) veterinarian or (G) forest ranger
2. (B) dance teacher or (I) gym teacher; possibly (C) artist
3. (E) machine worker or (K) carpenter or (L) automobile mechanic
4. (C) artist
5. (D) lawyer, (H) judge, or (J) politician

EXERCISE 3. MATCHING INTERESTS, APTITUDES, AND VALUES WITH CAREERS

Directions: As a group, decide which career best matches sach set of interests, aptitudes, and values. Write your answers on a separate sheet of paper.

INTERESTS, APTITUDES, VALUES	CAREERS
1. *interest* -working with plants and animals *aptitude* -eye-hand coordination *value* -respect for nature	A farmer
2. *interest* -helping others *aptitude* -body coordination *value* -wisdom	B dance teacher
3. *interest* -working with machines *aptitude* -eye-hand coordination *value* -equality	C artist (painter)
4. *interest* -creating things *aptitude* -color aptitude *value* -independence	D lawyer
5. *interest* -reading, writing, speaking *aptitude* -word aptitude *value* -equality	E machine worker
	F veterinarian (animal doctor)
	G forest ranger
	H judge
	I gym teacher
	J politician
	K carpenter
	L automobile mechanic

Exercise 4. Reading: Review

The exercises in Activities 3-5 asked students to read about, think about, and talk about INTERESTS, APTITUDES, and VALUES. Further, they were asked to assess their own interests, aptitudes, and values in terms of present and future educational, social, and career-oriented goals.

It is important that students understand certain ambiguities which naturally arise when one is dealing with these three terms. Emphasize that the terms do indeed overlap, and that they are definitely related to one another both in meaning and in application.

Students should understand that an INTEREST is simply something one enjoys regardless of individual proficiency or talent; that an APTITUDE is a learned skill for which one has an inherent propensity; and that a VALUE is a belief or moral stance which is socially or personally redeeming.

Pass out the vocabulary review sheets (p. 94 in this Guide) or read the material to students. Then discuss the terms to make sure students understand them. In discussing the terms, you might wish to include some or all of the following points:

1. Although INTERESTS need not necessarily encompass APTITUDES, they often do. People tend to be interested in activities for which they have aptitudes, because they are "equipped" do do those things fairly well.

2. Although APTITUDES need not encompass interests, they often do. People tend to develop or refine aptitudes for those activities which are of particular interest to them.

3. APTITUDES tend to be more intrinsic in nature or appear earlier in life than INTEREST. Ask students to think about their favorite sport or school subject or hobby. Ask them why they enjoy that thing. How did they first become interested in it? Were they pretty good at it?

4. Because the term VALUE is the least tangible and perhaps most obscure of the three, you may have more difficulty defining it for the class. You may wish to get at this concept by writing

   "If I were President of the United States, I would..."

   on the blackboard. Utilize student responses to this hypothetical question as a basis for a brief discussion of VALUES. Write their responses on the board so they can see as well as hear similarities and differences in VALUES. Mention, or ask students to mention, value-oriented words such as: *money, service, brother, etc.*

EXERCISE 4. READING: REVIEW

Here is a list of words that have been used in this unit. Before you begin the last Activity, stop and make sure that you know what each one means.

1. *CAREER:* A person's life work

2. *CAREER CLUSTER:* A group of careers that have something in common. The 15 career clusters presented in this unit are: Agriculture, Business, Communications, Construction, Homemaking, Environment, Fine Arts, Humanities, Health, Recreation, Manufacturing, Marketing, Marine Science, Personal Service, Public Service, and Transportation.

3. *BASIC NEEDS:* Things people need to survive. The four basic needs presented in this unit are: Food, Shelter, Aids and Security.

4. *INTEREST:* Something that a person likes to do. (Example: Sue is interested in helping other people.)

5. *APTITUDE:* Something that one has an ability to learn to do. (Example: Greg has an aptitude for numbers.)

6. *VALUE:* Things, ideas, or actions that a person feels are important or worthwhile. (Example: Marty values honesty.)

Activity 6

GOAL:	To help students develop their understanding of how interests, aptitudes, and values can affect career choice.
OBJECTIVE:	Students will take part in a matching exercise and a simulation exercise in which they make career choices based on given sets of interests, aptitudes, and values.

WHAT STUDENTS WILL BE ASKED TO DO

- "Match" biographical sketches to appropriate career clusters and occupations, based on interests, aptitudes, and values described in the sketches
- Decide as a group the most logical ten people (from a list of 25) to begin life on a new planet, based on age and occupation
- Discuss the importance of values to these decisions
- Evaluate group performance in the planet exercise

PREPARING FOR CLASS

If you have access to duplicating facilities, duplicate one copy per student of the following:

Exercise 1. Matching Interests, Aptitudes, and Values with Careers (pp. 99-104 in this Guide)

Exercise 2. "People Who Want to Go to the New Planet" (pp.107-108 in this Guide)
Sample Choice Sheet (p. 109 in this Guide)
Review Questions (p. 110 in this Guide)

PROCEDURE

Exercise 1. Matching Interests, Aptitudes, and Values with Careers

In this exercise, students will read brief biographical descriptions of sixteen imaginary people. Using information about those people's interests, aptitudes, and values contained in the sketches, students are to select the career cluster and a job or jobs within the cluster which seem most appropriate for each of the imaginary people. This should encourage students to think of jobs and groups of jobs as they relate to an individual's skills, interests, and personality characteristics.

Students should work individually on this exercise. Pass out the biographical description sheets (pp. 99-104 in this Guide) or read the material to students, pausing long enough after each sketch for them to decide on a cluster and a job for each person. Make sure students understand that they are to use the information about interests, aptitudes, and values in the sketches to decide on two things: (1) the career cluster each person is best suited for, and (2) the job the person is best suited to do. Help students with any hard words, and make sure they understand idioms such as "balance the books." Suggest that students refer to their Career Cluster charts (pp. 21-23 in this Guide) during this exercise.

Emphasize that there are no "right " or "wrong" answers in this exercise. While some clusters will be more logical than others, many would be acceptable choices for any given person. The descriptions are purposely short and vague to encourage students to use their imaginations. Point out that in real life, too, it is common for a person to be good at or potentially suited for more than one job--perhaps even for jobs in completely different fields. It is advisable to remain flexible and explore a variety of potential career paths.

Allow about twenty minutes for students to decide on a cluster and a job for each of the imaginary people. Then ask them to share their ideas with the class. You might want to write the names of the imaginary people on the board, one at a time, and discuss jobs for each. If the chosen clusters and occupations for a given person are noticeably diverse, encourage students to discuss the reasons for their choices.

Suggested Answers

Note: Clusters and occupations other than those given below may be quite acceptable. Any answer which fits reasonably well with the descriptive material in the biographical sketches is acceptable.

1. Sharon Velarde

   Cluster: Environment, Fine Arts

   Occupation: Environmentalist, teacher

2. Mike Hightower

   Cluster: Transportation, Fine Arts

   Occupation: airline pilot, historian, history or social studies teacher

3. Joel Sanchez

   Cluster: Agriculture

   Occupation: farmer

4. Sarah Chee

   Cluster: Public Service, Fine Arts

   Occupation: policewoman, lawyer

5. Lisa Tallchief

   Cluster: Business

   Occupation: bookkeeper, accountant

6. William Dove

   Cluster: Fine Arts

   Occupation: artist (woodcarver)

7. Joe Red Owl

   Cluster: Environment, Marine Science, Fine Arts

   Occupation: water pollution expert, marine scientist

8. Cathy Crowe

   Cluster: Recreation, Fine Arts

   Occupation: sports leader (at a resort or camp, for instance), gym teacher, professional athlete

9. Thomas Tommaney

   Cluster: Fine Arts, Public Service

   Occupation: lawyer, politician

14. Wanda Begay

Cluster: Manufacturing, Fine Arts

Occupation: seamstress, fashion designer

15. Andrew St. James

Cluster: Personal Services, Recreation

Occupation: cook, restaurant manager

16. Ellen Green Pine

Cluster: Marketing

Occupation: buyer, market analyst, salesperson

10. Richard Rainwater

Cluster: Communication, Fine Arts

Occupation: newspaper reporter, editor, writer, journalist

11. Pablita Fox

Cluster: Homemaking

Occupation: interior decorator, housewife

12. Greg White Rabbit

Cluster: Construction, Fine Arts

Occupation: carpenter, engineer, architect

13. Thomas Tiber

Cluster: Health

Occupation: doctor, medical aide

EXERCISE 1. MATCHING INTERESTS, APTITUDES, AND VALUES WITH CAREERS

1. *Sharon Velarde*

Sharon's parents taught her a deep and lasting love for the land and for beauty, and a respect for all things. She wants to pass these values on to other Indian young people. She also would like to see other people take better care of the land than they do.

2. *Mike Hightower*

Mike has wanted to fly ever since he was a young boy. He received many military honors as a pilot in the United States Air Force. He loves to travel and has learned much about different countries' languages, customs, and history. He gets restless if he has to stay in any one place for very long.

3. *Joel Sanchez*

Joel was born in a log cabin to a full-blooded Indian mother and a Spanish-American father. He spent most of his youth going to school and working on his parents' small farm. He learned to love the land on this farm. He really enjoyed planting things and watching them grow.

4. *Sarah Chee*

Sarah's great-grandfather was the High Sheriff of the Apache Nation. Her grandfather was the first sheriff of Apache County, and her father has been sheriff of the same county for twenty years. Through her family, Sarah became very interested in law and justice.

5. *Lisa Tallchief*

Lisa has always loved to work with numbers. Even as a youngster, she knew how to add, subtract, multiply and divide quickly and correctly. Lisa's parents ran a small jewelry business. As Lisa became older, she used to help them balance their books each month.

6. *William Dove*

When William was growing up, he spent as much time as he could whittling away with a pocketknife at a piece of wood. He was an excellent wood carver. Later he earned his way through college by selling his wood work.

7. Joe Red Owl

Joe grew up close to a river. He used to love to go to the river to study the animal and plant life in it. Later, when a newly-built factory began polluting his favorite river, he became sad and angry, too. He decided that one day he would do something to stop people from carelessly polluting the water.

8. Cathy Crowe

Even when Cathy was very young, she loved to run. She always won the races which were held on her reservation as part of religious ceremonies. As Cathy grew older, she took part in many different sports. But even more than the sports themselves, she loved teaching them to others. It was important to her to see that other people had as much fun as she did.

9. Thomas Tommaney

While serving in the United States Army, Thomas was not allowed to eat in a restaurant because he was an Indian. He was too poor to hire a lawyer to sue the manager of the restaurant. But he vowed that one day he would spend his life stopping unfair treatment of Indians and other minority races.

10. Richard Rainwater

Richard was just fifteen years old when his parents died. After that, he had to take on many responsibilities. He became a fine student and graduated from high school at the top of his class. In college, he was the editor of the school newspaper. Many people admired his clever and well-written articles. He always got the "real facts" behind a news story.

11. Pablita Fox

Pablita has always had an excellent sense of color and design. She has always been interested in helping to make people's physical surroundings (at home, at work, and so on) pretty and comfortable In high school she helped decorate a special spot in the school where students could go to relax and talk.

12. Greg White Rabbit

Ever since he was a very young boy growing up on a reservation in Arizona, Greg has loved to build things. He would gather his own wood and other materials. Then he would saw and pound for hours. He made beautiful doll houses as presents for his two sisters one year.

13. Thomas Tiber

Thomas is the grandson of a Navajo medicine man. At a young age, he began to have a strong interest in healing the sick. He has always tried to help the sick people in his tribe get well. He tells others about how to keep healthy, too.

14. Wanda Begay

Wanda has always enjoyed sewing, both for herself and for other people. The clothes she makes are carefully put together and beautiful, too. She likes to embroider traditional Indian designs on them, or else dye the designs on the cloth. As a teenager, she raised vegetables and sold them in order to earn money to buy her own sewing machine.

15. Andrew St. James

When Andrew was young, he always enjoyed being around his mother and grandmother when they were cooking. He didn't just want extra food, either. He wanted to know exactly what was in each pot and how each kind of food was cooked. Cooking for village festivals, when many people ate together, interested him even more. "I'm going to cook for lots of people someday," he said.

16. Ellen Green Pine

Ellen's father worked at a trading post on their reservation. Whenever Ellen wasn't in school, she spent most of her time at the trading post. She asked her father all kinds of questions. "Where do the things we sell come from? Who makes them? Why do people buy one kind of bowl and not another, when the kinds look very much alike? How do you know which kind of bowl people are going to buy?"

Exercise 2. Playing a Game: Who Will Go?

In this final exercise students will be given a list of twenty-five imaginary people, including the age and occupation of each. From this list they will be asked to choose ten people to start life on a new planet. Students are to choose the ten people who they feel would be most valuable for such an adventure and give reasons for their choices. The exercise encourages students to think about the relevance of occupations to a pioneering colony on a new planet. It will require them to apply much of what they have learned in this unit about basic needs; about career clusters; about interests and aptitudes. It will also make them more aware of values as their lists will reflect certain value judgements about the relative importance of one person versus another. The exercise also affords students further practice in group decision-making.

Instruct students to divide into their workgroups. Pass out the list of twenty-five people who want to go to the new planet (pp. 107-108 in this Guide), the Sample Choice sheet (p. 109) and the Review Questions (p. 110); or put this material on the board or read it to students at appropriate points. Explain that students are to imagine they are going to set up a colony of people on a new planet and that they may take ten, and only ten, of these twenty-five people. The decision will be based on the people's age and on their skills and knowledge as suggested by their occupations. Emphasize that all people are valuable, but in terms of a project like this, some are more valuable than others. Each group is to decide, as a group, which people these are. Remind students to appoint one person to write down the group choices as they are made, as shown on the sample sheet.

Emphasize that here, as in other exercises, there are no right or wrong answers. Go over the list and make sure students understand all the job names. Then tell students to begin by making a list of their ten choices, individually, set up like the sample sheet. After about ten minutes, tell students to begin making up a group list.

It is recommended that you write the titles of the fifteen career clusters on the board so students may easily refer to these throughout the exercise. You may also refer students to the career cluster charts (pp. 22-23 of this Guide). Allow students ten more minutes to make their group list of ten people to start life on the new planet. Circulate through the room as students work and answer any questions they have.

Finally, tell students to stop and discuss the review questions as a group. Give them five or ten minutes to do this.

When students have finished the assignment, ask the groups to share their choices with the class. Discuss the discrepancies between lists and the reasons behind the choices. Discuss the different values the choices reflect. You might want to make a "class list" by asking for a class' show-of-hands vote on each of the twenty-five people and taking the ten who receive the greatest number of votes (each student may vote for ten people).

As you discuss the group or class lists, ask questions such as:

Were there some people who were rather easy to leave out? Who were they?
Were there some everybody wanted to take?
Who were these people?
Why were they easy to make up your minds about?
Which occupations did you think were most important, and why?
Which were least important?
What part did the people's ages play in your decision to take them or not?
How many different career clusters are represented in your list of ten people?
Which cluster or clusters seemed to be most important?
Why were they important?

Discuss the Review Questions also, especially questions 1 through 4.

EXERCISE 2. PLAYING A GAME: WHO WILL GO?

PEOPLE WHO WANT TO GO TO THE NEW PLANET

1. George McMann, age 32, farmer, college graduate
2. Cynthia Redsky, age 30, pregnant, not working
3. William Hunt, age 47, Protestant minister
4. Susan Bell, age 35, lawyer
5. Lester Bell, age 7
6. Richard Whitewater, age 21, television repairman
7. Jim Adams, age 19, fisherman
8. Barbara Swift, age 65, retired school teacher
9. Daniel Plath, age 42, auto mechanic
10. Peter Brown, age 50, politician
11. Linda Burns, age 34, writer
12. Mary Thompson, age 43, doctor

13. Diane Adams, age 18, secretary

14. Norman Prince, age 31, photographer

15. Brad Burns, age 36, college professor

16. Beverly Burns, age 5

17. Art Durow, age 30, high school science teacher

18. Christina Crowe, age 41, artist

19. John Hall, age 35, carpenter

20. Charles Stewart, age 56, medical assistant

21. Steven Howard, age 18, freshman in college

22. Lee Jones, age 68, retired scientist

23. Mary Wall, age 52, gym teacher

24. William Altman, age 38, truck driver

25. Linda Welby, age 34, environmental scientist

SAMPLE CHOICE SHEET

NAME	AGE	OCCUPATION	CLUSTER	REASON
1. John Hall	35	carpenter	Construction	Could design and build houses, furniture; could make tools for hunting, fishing.
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

REVIEW QUESTIONS

After your group has decided on ten people to go to the new planet, talk over these questions together.

1. Which two people did you decide on most quickly? Why? What clusters did they belong to?

2. Which cluster appears most often in your list of ten people? Why do you think this happened?

3. Did you include either of the two children? Why or why not?

4. Which of the people you did NOT include would you like to have included if your list could have been longer (say, fifteen people instead of ten)?

5. How well did your group work together in this exercise? Were you able to agree quickly on who should go, or did it take a long time? Did all group members say what they thought? Did group members listen to each other's opinions? How similar was your own list to the final list of choices which your group made?

Using The Test

The test questions on the next four pages are intended to check student mastery of the main points covered in this unit. If your presentation of this material has varied to any significant degree from what is in this book, you may want to add or replace questions on the test.

In addition to serving as a measure of student achievement, having students answer these questions can serve as a useful review activity.

Sample answers appear on pp. 115-117.

NAME _____

DATE _____

QUESTIONS FOR STUDENTS WHO HAVE FINISHED "PUTTING IT ALL TOGETHER"

1. Draw a circle around one of the career clusters listed below, and write down the names of three jobs in that group.

   clusters: construction . manufacturing . transportation

   agriculture and natural resource use . homemaking

   jobs: a. _____

   b. _____

   c. _____

2. What basic need can jobs in each of these clusters help to meet?

   a. construction-- _____

   b. communication-- _____

   c. health services-- _____

   d. marine science-- _____

3. Match the following cluster names with the descriptions of kinds of jobs:

a. fine arts and humanities .	. see that products get from factories to stores, sell them to people
b. marketing and distribution .	. work with machines to cut and shape wood, metal, and other materials into finished products
c. public service .	. teach, entertain, make beautiful things, write, work for justice
d. manufacturing .	. protect and improve life and property, clean up, delivery mail, put out fires, provide water, keep people safe

4. Name or describe four of the jobs involved in making a book and getting it to the reader.

   a. _____

   b. _____

   c. _____

   d. _____

5. Think about yourself or someone you know. Then describe that person by listing an interest, aptitude, and value he or she has.

   a. interest _____

   b. aptitude _____

   c. value _____

6. What are three jobs the person you described in question 5 might be good at?

   a. _____

   b. _____

   c. _____

7. Describe one way of testing for each of the following aptitudes:

   a. word aptitude

   b. number aptitude

   c. body coordination

   d. eye-hand coordination

   e. color aptitude

8. Read the following descriptions. After each one, name or describe the value the person or people described probably have.

   a. One day at the Indian Center, John Owl Feather met a boy who had just moved to the city from the reservation. His new friend was embarassed because he didn't have the kind of clothes the city kids wore. John gave him a pair of pants and a shirt of his own.

      VALUE SHOWN _____

   b. Linda Delaplaine was good at art and her other school subjects. A local business group offered her a scholarship to train as a teacher, but Linda got a job and saved her money to go to Art School.

      VALUE SHOWN _____

   c. The career education class had to plan a class project. What they decided to do was clear all the trash from the land around the school and re-plant it with native wild plants with a fence to keep people from messing it up again.

      VALUE SHOWN _____

SAMPLE ANSWERS
30 possible points

NAME _____

DATE _____

QUESTIONS FOR STUDENTS WHO HAVE FINISHED "PUTTING IT ALL TOGETHER"

3 pts/ 1. Draw a circle around one of the career clusters listed below, and write down the names of three jobs in that group.

clusters: construction . manufacturing . transportation

agriculture and natural resource use . homemaking

jobs: a. _____

b. *Any jobs or descriptions of jobs which are appropriate to the cluster circled should be accepted*

c. _____

4 pts. 2. What basic need can jobs in each of these clusters help to meet?

a. construction-- *shelter*

b. communication-- *aids, tools*

c. health services-- *security*

d. marine science-- *food*

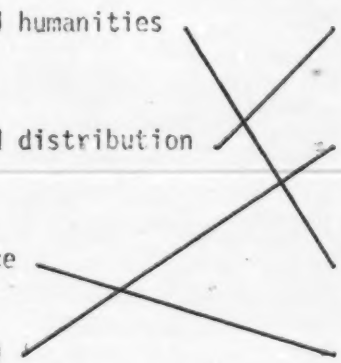
3. Match the following cluster names with the descriptions of kinds of jobs:

a. fine arts and humanities

b. marketing and distribution

c. public service

d. manufacturing



see that products get from factories to stores, sell them to people

work with machines to cut and shape wood, metal, and other materials into finished products

teach, entertain, make beautiful things, write, work for justice

protect and improve life and property, clean up, delivery mail, put out fires, provide water, keep people safe

4 pts. 4. Name or describe four of the jobs involved in making a book and getting it to the reader.

a. *possible choices include: forester, lumberjack,*

b. *(or any lumbering jobs), pulp mill operator (or any*

c. *jobs included), writer, publisher, editor, printer,*

d. *binder, distributor, salesperson, etc.*

3 pts. 5. Think about yourself or someone you know. Then describe that person by listing an interest, aptitude, and value he or she has.

a. interest *any serious answers should be accepted*

b. aptitude

c. value

3 pts. 6. What are three jobs the person you described in question 5 might be good at?

a. *answers which seem appropriate to the information*

b. *in #5 should be accepted*

c.

4 pts. 7. Describe one way of testing for each of the following aptitudes:

a. word aptitude

tests described in the reading or devised by the students, or other tests thought up by the student which seem appropriate, should be given credit.

b. number aptitude

c. body coordination

d. eye-hand coordination

e. color aptitude

8. Read the following descriptions. After each one, name or describe the value the person or people described probably have.

a. One day at the Indian Center, John Owl Feather met a boy who had just moved to the city from the reservation. His new friend was
3 pts. embarassed because he didn't have the kind of clothes the city kids wore. John gave him a pair of pants and a shirt of his own.

VALUE SHOWN *generosity, concern for others*

b. Linda Delaplaine was good at art and her other school subjects. A local business group offered her a scholarship to train as a teacher, but Linda got a job and saved her money to go to Art School.

VALUE SHOWN *independence, pride, love of art*

c. The career education class had to plan a class project. What they decided to do was clear all the trash from the land around the school and re-plant it with native wild plants with a fence to keep people from messing it up again.

VALUE SHOWN *respect for nature*

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